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FEBRUARY, 1949
Vol. XXV, No. 4

★

...ublished monthly to finishing ... and paint shop foreman, ...uction superintendents, ...ists, purchasing agents and ...ny executives of metal-..., woodworking and mis-...eous industrial plants ...n production cleaning and ...ing are major operations in ... and products manufacture.

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25 TWENTY-FIFTH YEAR OF PUBLICATION

Two-Purpose Tables for use in small homes and apartments are being shown in New York. The newest designs in coffee tables hold planter wells or roomy cellerettes; others conceal nests of smaller tables. Perhaps the most practical is the round table built like the old fashioned piano stool, making it possible to raise it to dining table height. At this height, one leaf may be added to form an oval to accommodate four persons, and in a pinch, six.

Another convertable table is a long rectangular model with hinged supports, the lower half of which lies flat on the floor when used as a coffee table, or stands vertically to raise it to dining table height.

* * *

Envelope Machine. Packaging has been raised to new levels in a machine that makes envelopes from a roll of paper, prints them in two colors, accurately counts items, drops them into the envelope and seals the flap. It is adapted for use in packaging screws, nuts, small bolts, safety pins, piston rings, etc.

* * *

Labels are now available that are pressure sensitive. They will stick on nearly any surface, and they may be removed for re-use without leaving any trace of the adhesive. Water or liquid cement are not required to adhere them.

For production work, there is also available a power driven dispenser which can be operated at a speed sufficient to keep two operators busy labeling products. It is said that the adhesive will not attack organic finishes, aluminum or plastics.

* * *

Synthetic Fiber materials march on —rayon, then nylon, and the latest addition is "Orlan" by DuPont. It is predicted that this material will have wider use than nylon and rayon.

The new fiber came about after long research on the desirability of polyacrylonitrile as a fiber forming material, according to Dr. Joseph B. Quig, assistant manager of the development section of DuPont. The new fiber became a reality with the discovery of suitable organic solvents.

Orlan is highly resistant to outdoor exposure. An outdoor exposure test over a period of 1½ years showed that it retained 77% of its strength. Silk, nylon, linen, cotton and viscose rayon were complete failures in an exposure test made simultaneously with Orlan.

* * *

White Enamel. A new coating has been developed for either spray or dip application on light fixtures. It is formulated to bake for 20 to 30 minutes at 275° F., and will provide 87% reflectivity. The new material withstands 1000 hours of humidity test and 500 hours of salt spray test.

* * *

More Patents. Industrial advancement is indicated in increased patent awards. Patent Office officials report 11,818 patents granted in 1946; in

(Continued on page 8)

Finishing SYSTEMS

for ENAMEL • LACQUER • PAINT • VARNISH

. . . Heating Units are Equipped for Gas or Oil Firing!

Here is another typical Mahon solution of a finishing problem which involved prime coating metal doors and frames, metal wall panels up to ten feet in length, and a variety of other metal parts of many shapes and sizes. Combination gas and oil fired heating units were engineered into this entire system—for Metal Cleaning and Chemical Preparation Equipment as well as Dry-off and Final Bake Ovens. change over from gas firing to oil firing may be accomplished in a matter of seconds without interrupting production. When you contemplate new, modern finishing equipment—regardless of what your finishing problem may be—remember that Mahon has pioneered development in this highly specialized field for twenty-eight years . . . this broad experience, which covers many diversified industries and is world-wide in scope, together with constant experimental research, has endowed Mahon engineers with a wealth of technical knowledge and practical know-how not available to you elsewhere. Better planning, better engineering, and a better and more economical job of finishing is the result. See Sweet's Mechanical Industries File for complete information.

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Engineers and Manufacturers of Complete Finishing Systems—including Metal Cleaning and Chemical Preparation Equipment, Dry-off Ovens, Hydro-Filter Spray Booths, Filtered Air Supply Systems, Drying and Baking Ovens, and Paint Reclamation System. Also, Core Ovens, Dust Collectors, and many other Units of Special Production Equipment.

AHON

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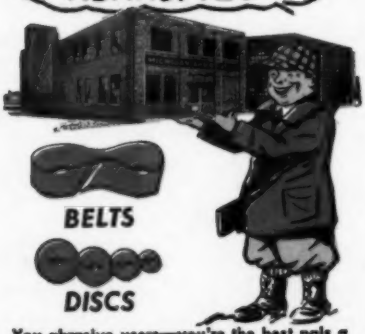

You abrasive users—you're the best pals a guy ever had! You latched onto our SHARP-CUTTING Abrasives *and hung onto them like a puppy to a rat.*

But more! You told your friends about them—how these sharp, clean-cutting abrasives LAST LONGER . . . And sales boomed!

You made it possible for us to open a second big modern plant—*just for fabricating* Michigan SHARP-CUTTING Abrasives . . . So, "Thanks a Million!"

And say—if YOU haven't tried these famous MICHIGAN Abrasives—

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today—Samples that let you SEE and FEEL the difference.

IN EVERY TYPE YOU WANT!
(Supplied in Belts, Discs, Rolls and Sheets—paper or cloth backed—in Silicon Carbide, Aluminum Oxide, Garnet—in full range of standard grit sizes.)

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Michigan
SHARP CUTTING
ABRASIVES
'The Humidity Controlled Abrasive'

1947 there were 20,148, and in 1948 a total of 23,972 were awarded. This steady upward trend is a good sign. Back in the late 1930's it was not uncommon for the Patent Office to issue 1000 to 1200 patents per week, which ran the yearly total to almost twice that of last year which set the post-war record.

* * *

Static Eliminator. Newly designed equipment to eliminate static electricity has been developed for paper folding machines.

If you operate a roller coating machine where paper or other thin material is coated, and you are bothered with static which causes the material to cling to the rolls, this equipment should solve your problem. The manufacturers are prepared to design application for each specified machine.

* * *

A Fire Detector has been developed which not only sounds an alarm, but indicates the location of the fire. Furthermore, if any part of the system is not functioning properly, the control board will show the failure.

For comparatively small buildings, the control board will show the exact location of the fire. In larger buildings, the central control board will indicate the area or floor in which the fire exists; then a supplemental board in the area, or on the particular floor will give the exact location.

This equipment should be valuable in plants where highly combustible materials are stored and used.

* * *

Emulsion Paints. Since the war the sales of emulsion paints have increased to an estimated 20 million gallons per year, produced by about 50 companies.

Chemists first successfully adapted the emulsion technique, in a large

(Continued on page 96)

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. . . Under Heat

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DUALHEET

PAINT and AIR HEATER

Guarantees Greatest Efficiency with Substantially Lowered Production Finishing Costs.

...ESPECIALLY RECOMMENDED FOR LACQUER SPRAYING.

Only Dualheet assures against heat losses in hose lines up to thirty feet without aid of circulating pump.

Pats. Pending

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TRIALENE HAND SOAP (Liquid)

★★★

SEND FOR NEW BULLETIN —— DEPT. A

BECK EQUIPMENT CO.

CLEVELAND 2, OHIO

Set Up for

PAINTING ELECTRIC H

WITH ONLY a "handful" of direct labor, up to 4000 electric heaters are painted monthly in the new specialty division of the Swanson Tool & Machine Products, Inc., Erie, Penna. Modern plant layout, including conveyorization and infra-red baking ovens, enter into the production setup which is described here.

Since spot welding is so skillfully employed in the assembly of side, front and back panels of the heater body, no sanding or grinding are necessary before beginning finishing operations. Stainless steel reflector units are assembled with heating elements and other parts after the bodies and handles are painted, see picture on this page.

In background, housings for heaters are removed from conveyor after having been through all oprations on the painting line. Packing in foreground has been changed; heaters are now placed in paper bags. Reflector assemblies are on mobile racks.

C HEATERS

By Walter Rudolph

Features of this production setup are that it is adaptable to the cleaning, spray painting and infra-red baking of many other parts and products.

Examining painted Bakelite handles which have come through all operations, positioned on racks that hang from the conveyor.

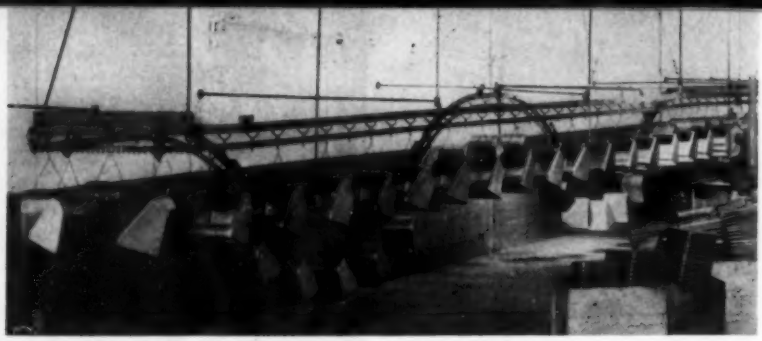
It is interesting to note that this firm took the idea for its new product — called Pyr-O-Tube, combining unusual safety features with efficient heating — and carried it through all stages of engineering, developing, planning, tooling and manufacturing before announcing volume production. Previously the firm had never attempted manufacturing a complete product, having specialized in machining of special tools and parts for years.

Assembly Operations on Electric Heaters

Two large adjoining rooms were acquired in the same building. Each measures 100x50-ft. Lighting was improved, and the entire interior was painted white above shoulder level to brighten working stations and improve working conditions. One section of the new plant houses the press department and primary metal working operations, while the adjacent area contains the paint department and assembly, in addition to storage and an experimental department.

Panels for the side, front and back of heater bodies are moved to a welding station near the paint conveyor line. Precision press work permits comparatively easy fitting of the body panels, and a spot welder is used in the assembly. A hexagonal fixture is utilized about half way through these welding assembly operations to assure rigidity and alignment of panels.

The cleaning and rinsing of heater bodies is done automatically on the conveyor line leading to a paint spray booth. The conveyor line is



Dips in conveyor line show where tanks are placed for cleaning and rinsing operations.

built to dip first into a tank of cleaning compound, and second into a tank of hot rinse water.

A monorail conveyor system about 120-ft. long, in a continuous cycle, was built in an L-shape along one side and one end of the room where painting and assembly operations take place. A paint spray booth is located in the angle of the L, while the baking ovens extend along the base of the L.

Infra-Red Ovens Are Adjustable

The use of mobile infra-red baking ovens allows adjustments that can speed up or slow down finishing operations. In fact, the finishing line is so efficient that Swanson is getting supplementary painting work from outside manufacturers. When wide tubs are painted, for instance, the respective halves of the mobile baking ovens are moved farther apart to permit the larger pieces to pass through. And, of course, the conveyor speed is easily adjusted on this line, according to the needs of each job.

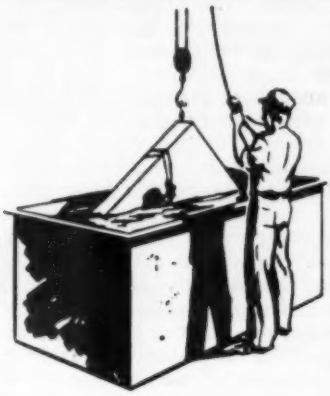
Two complete ovens are positioned end to end. The infra-red lamp banks, in their metal frames, are supported by steel members that ride on wheels. Thus each bank can be moved in any direction; it can be moved closer to or farther from the conveyorized products being baked, according to the desired intensity of heat or the speed of finishing. Sub-assembled heaters, or heater bodies, are allowed 12 to 15 minutes to travel through the baking ovens.

Heaters get just one coat of rich neutral gray enamel—a specially developed finish; it is sprayed from a 5-gallon paint container. The painter removes a heater from the slowly moving line, hangs it in the booth, sprays it as he gradually turns it to reach all sides, and then returns the heater to the conveyor.

Setup for Painting Bakelite Handles

The only other painted item on heater is the Bakelite handle on top of the unit. Handles had to be bought black. Swanson has worked out a unique hanger to speed up the painting of these handles. They are grouped, ten at a time, on a special conveyor rack. Each handle has two screw holes that fit over special prongs on the conveyor rack to protect the holes from paint, while at the same time holding the han-

Save steel!
Save acid!
Save money!



USE OAKITE Pickle Control No. 3 to inhibit hot sulphuric-acid pickling baths! Use Oakite Pickle Control No. 4 to inhibit hydrochloric-acid pickling baths!

Oakite Pickle Controls minimize attack on steel without retarding action on scale or rust. They prevent waste of acid after scale or rust have been dissolved.

Steel is money! Acid is money! Oakite Pickle Controls save some customers up to 19 cents per ton on pickling operations!

In addition to these savings, Oakite Pickle Controls offer the following advantages:

1. Reduction of acid fuming — greater safety and comfort for workers.

2. Prevention of over-pickling and pitting —brighter surfaces, smoother bases for coats of tin or zinc.

3. Reduction of hydrogen embrittlement —greater protection against blistering of electroplated parts.

4. Cleaner work—better rinsing with less smut adhering to surfaces.

5. Retardation of iron-sulphate formation —longer life for pickling solutions, less spent liquor.

Free Demonstration. The Oakite Technical Service Representative in your vicinity will gladly demonstrate the efficiency of Oakite Pickle Controls. For new Special Report on "Improved Pickling and Neutralizing" write Oakite Products, Inc., 32F Thames St., New York 6, N. Y.

OAKITE

Specialized Industrial Cleaning

MATERIALS • METHODS • SERVICE

dles firmly. The prongs are brass, with a partial split that allows the tips to be compressed to fit the screw holes.

Handles are sprayed blue with a cup gun. Both handles and heaters are removed at the end of the L-shaped conveyor. This is near the beginning of the final assembly line.

As soon as the painted heaters have become cool from the baking ovens, three small rubber feet are placed on each heater—the first step in final assembly. Handles are next put on. Electric scru-guns are utilized to assemble the exterior and interior of each heater. Cadmium-plated grills are fastened into position after testing, and the heater is practically ready for the consumer.

Incidentally, the stainless steel reflectors, after being welded into a unit and before final assembly with the heater, are cleaned with thinner and whiting, and polished by hand.

Protective Packing for Shipment

For some time the heaters were wrapped with large sheets of manila paper for shipping, the paper being held tightly over the heater with adhesive tape. But now Swanson uses manila bags. The heater is inserted into the bag, the mouth of which is tucked into the bottom of the heater. Then heater tubes—glass, or pyrex, enclosing a spiral heating element—are wrapped in corrugated paper and also placed in the bottom of the heater, and held in position with tape. The whole sacked unit is then placed in a cardboard carton. Shredded packing paper is tucked around the heater, and the carton flaps are glued down with a strong glue. [THE END]

The present spray painting setup for electric heaters and all other similar products.

MINIT KOTE

CLEANS..NEUTRALIZES ..PHOSPHATIZES IN "60" SECONDS

- No Rinse Required
- Adaptable To All Washers
- Minimizes Maintenance
- Saves Time
- Saves Space

PRODUCES BETTER CLEANING—STRONGER PAINT BOND

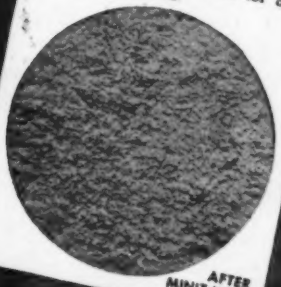
Don't gamble paint performance over a metal surface that has been only cleaned. Follow the lead of other wise manufacturers (toys to automotive truck cabs) Phosphatize the surface with MINIT-KOTE, a new original product that cleans and provides a quality paint bond in one operation at a minimum cost. Write us your cleaning problems and ask for a KLEM Service Engineer to help you with the solution—No obligation.

BEFORE MINIT-KOTE

PHOTOMICROGRAPHS PROVE VALUE OF MINIT-KOTE

Photographs show a dirty, hot-rolled steel surface before and after a one minute wash with MINIT-KOTE at 165°F in a power washer 1% by volume concentration.

Neither paint nor primer will adhere to a dirty, oily or rusty surface. Thorough cleaning is not sufficient for a satisfactory job MINIT-KOTE cleans, removes light rust and forms an adherent phosphate coating on the cleaned surface in one economical operation. Write for descriptive literature



AFTER MINIT-KOTE

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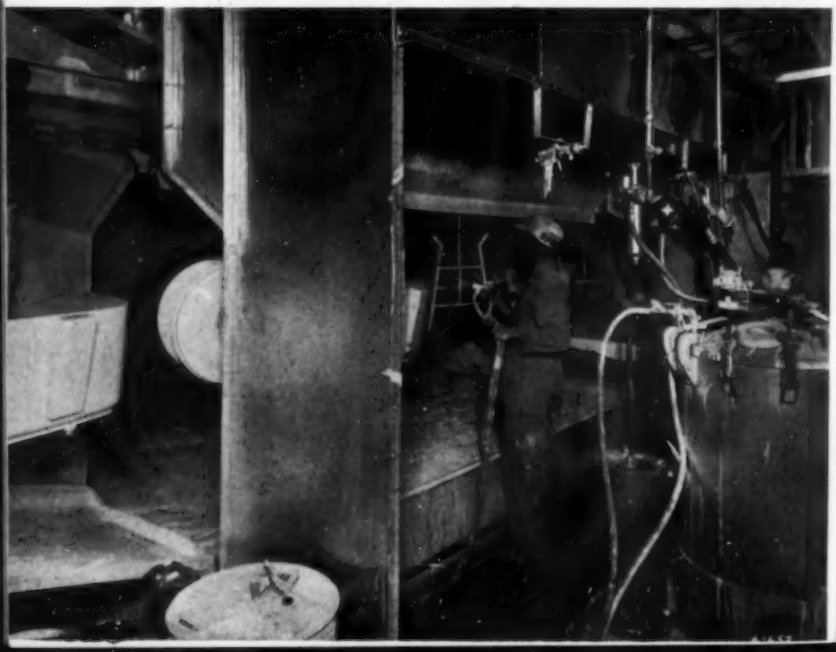
FINISHING PARTS FOR *Thor* WASHING MACHINES

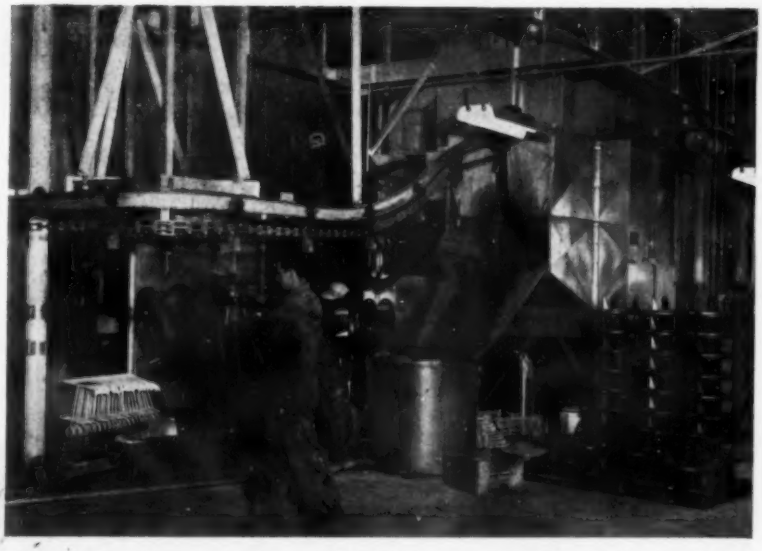
Highlights of this conveyorized setup are thorough cleaning and surface-treating of metal parts, prime coating by dipping, final spray coating with heated white enamel, and baking in an oven.

By Fred M. Burt

IN ORDER TO supply the large demand for Thor Corporation's new combination clothes and dish washer, in 11 western states, a new plant was built in El Monte (near Los Angeles), Calif., in 1946. The highly modern layout, equipment and procedures are based on efficient practices developed in the large main plant in Chicago. (Other plants are located in Toronto, Canada; London, England; and a new one is being built in Melbourne, Australia.)

Spraying white enamel as parts move by conveyor through water wash spray booth. Material comes from pressure tanks and passes through a paint heater before it reaches spray guns.





Here a workman hangs parts to an overhead chain conveyor which will take them through the surface treating setup—through sprays of hot alkaline cleaning solution, hot water rinsing, phosphating and oven drying in preparation for painting.

The well lighted and adequately ventilated plant building 152x284-ft., provides ample area for production according to an exacting schedule, eight hours a day, five days a week. In a typical day's operation the washer bases, upper and lower frames, covers, skirts and balancers are run through the paint finishing system, in about the following cycles:

Daily Schedule in Paint Department

From 8 A. M. to 10 A. M. the bases, upper and lower frames are given their finish spray coat, after having been prime coated the previous afternoon; from 10 A. M. to 12 A. M., covers, skirts, and balancers are given their primer coat by dipping, and are then moved by conveyor through the bake oven. On their return to the dip-spray room, these parts are transferred to the spray line and finish coated. This same operation follows for about two hours after the lunch period. The remainder of the day is chiefly taken up by the primer dipping of upper and lower frames and bases.

Component parts, such as gears and castings, are received from the Chicago plant. Motors come from an eastern supplier; sheet metal parts from a Los Angeles fabricator; porcelain enameled in-

ner and outer tubs from Norris Stamping & Mfg. Co. of Los Angeles. Other materials and supplies come from local sources or company branches.

Shipments, unloaded on the railroad spur platform or truck dock, are usually handled on special pallets moved by Towmotor lift trucks. Each kind of part is taken to its own storage area which is clearly outlined and labeled with painted floor markings.

Parts to enter production are delivered on pallets to the loading area to start operations which will lead up to finishing. The overhead chain conveyor carries removable fixtures made of welded steel rod and specially designed for carrying each type of parts. The conveyor generally moves at a speed of 7-ft. per minute, but it has a variable speed drive to allow for increasing or decreasing this speed.

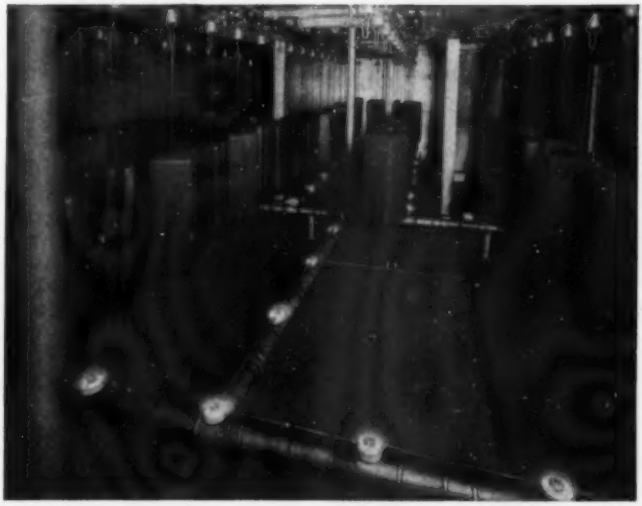
Cleaning, Rinsing Rust-Proofing, Drying

First in the surface treating setup is a hot alkaline cleaner (150° F.) which is sprayed from a battery of jets positioned to make the sprays strike the parts at every angle. Next is a hot water rinse

Operator is dipping parts into a cylindrical tank of white primer. Then they are hung to an overhead chain conveyor which takes them into and through an oven.

"My Buddy" TACKLE BOXES

up 50% in production with BURDETT (RADIANT HEAT) GAS SYSTEMS



"Through the installation of **Burdett Systems,"** writes Stratton & Terstegge Co. (Metalware Division), Louisville, Ky., "we have not only tremendously increased our finishing capacity but are now able to get a uniform and satisfactory job."

Baking time required for both smooth and wrinkle enamels within the heat zone is now 16 minutes at 300° to 340°, quite a reduction from 65 minutes at 275° under the old set-up. And, continues this manufacturer of the famous "My Buddy" Tackle Boxes, "the operating cost, so far as fuel is concerned, remains about the same as when we were using the old method of paint baking."

BURDETT (RADIANT HEAT) GAS SYSTEMS are setting other equally outstanding records in drying, baking, roasting, cooking, metal melting, annealing, etc., installations. They are fully adaptable to both old and new installations.

Write TODAY for complete information.

BURDETT MANUFACTURING CO.
RADIANT HEAT GAS SYSTEMS

3425 West Madison Street **Chicago 24, Illinois**

(150° F.) and a phosphatizing bath at 200° F. The cleaner solution is titrated twice daily to make sure that it will always be kept up to proper strength. The phosphatizing bath is checked six times daily to control its alkalinity.

Tanks that supply the recirculating spray cleaning solutions are heated by gas burners. Heat control and safety control devices are provided. For example, if the gas flame is extinguished the gas shuts off automatically. The recirculating pumps are located behind filter screens which are removed and cleaned each weekend. Paint deposits on carrying fixtures are cleaned off with stripping acid about once a month.

White Primer Coat is Applied by Dipping

Leaving the phosphatizing spray, the parts in process make a hairpin turn and travel back through a hot air drier and on into the paint room for primer dipping.

Inside oven where coated parts are baked at 325° F. Notice the heating ducts below.

The actual dipping is done by power, with reel and cable suspended directly above a cylindrical tank of prime coating material, as shown in one of the accompanying pictures. As the cleaned, dry parts move along by overhead chain conveyor, the dip-coating operator lifts off a fixture and part, hooks the fixture to the suspended cable and does the dipping—a straight down dip and a straight up lift. Then the dip-coated piece and its fixture are hung to the conveyor on the other side of the tank for a drainage travel before they enter the bake oven.

The 90-gallon dip tank contains an alkali-resistant white primer which is kept at a certain uniform viscosity by frequent measuring with a No. 4 Ford cup. The dipping tank is equipped with a pump-strainer combination that recirculates the entire contents every 30 minutes. A wiping arrangement, actuated by the turning of a handle, cleans the strainer screens.

Finish Coat of White Enamel is Sprayed

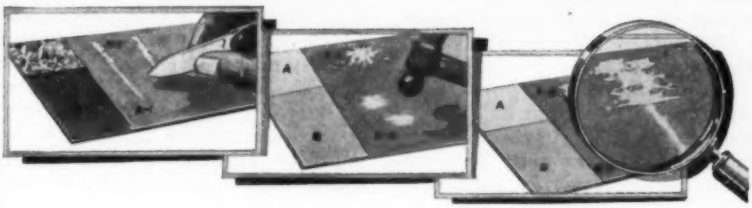
After the dipped prime coat has been baked the surfaces of the parts are sanded, wiped with tack rags, and then transferred to the section of the conveyor just ahead of the spray booth. In this water wash booth, they are sprayed with a single finish coat of alkali-resisting, white baking enamel. (For the bases, a similar black enamel.)

The finish enamel is sprayed from a 60-gallon pressure tank; it is

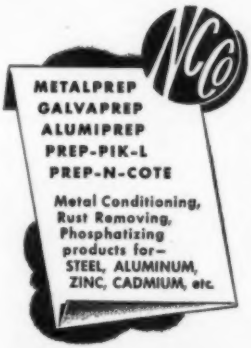
Paint STAYS PUT

When You Use

PREP PRODUCTS



"A" Sections Ordinary Solvent cleaned—
"B" Sections Prep Product cleaned



The above rigid tests demonstrate the superiority of Prep Products—Try them yourself. Prep Products have proved their dependability over years of use—They afford the best treatment of metal before painting. They remove rust and clean and etch the metal for better paint adhesion. They are your best protection against paint failure.

Write for Pamphlet 48-60

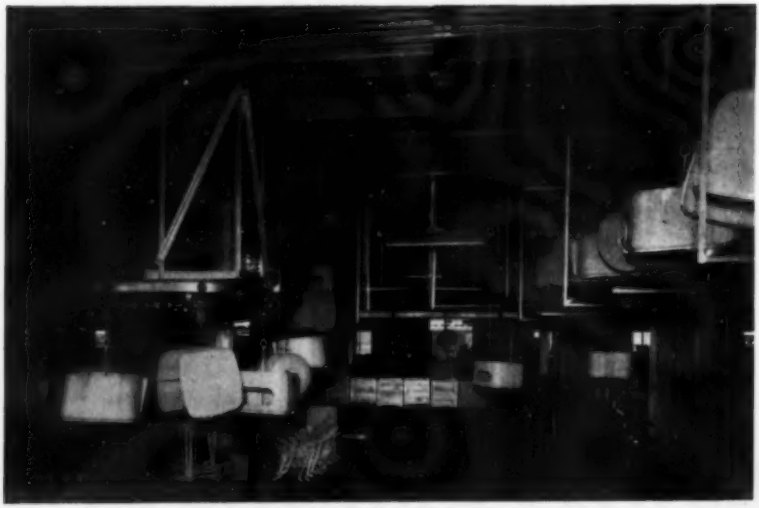
NEILSON CHEMICAL CO.

2682 Tecumseh Rd., Windsor, Ont. | 6562 BENSON ST., DETROIT 7, MICH. | 3411 Union Pacific Ave. Los Angeles 23, Calif.

kept at a certain viscosity by frequent measuring with a Ford cup. The enamel circulates through a paint heater before it reaches the spray gun. This uniform heating of the enamel thins it without the use of thinner—or with very little thinner—all of which results in a substantial saving in material because the thinner used to thin lacquer or enamel evaporates completely when the enamel dries. The heated enamel produces a heavier deposit of solid material to assure a completely satisfactory coverage with one coat.

Leaving the paint room, the conveyor makes two right angle turns and then moves on to ascend to the baking oven on the roof. This gas-fired, convection oven introduces hot air, under strong fan pressure, from two rows of adjustable slots in a large duct below the parts. One fan draws fresh air in through filters, and another fan exhausts hot air from one end of the oven to maintain a heat input capacity of 1,000,000-B.t.u's. per hour. The heater burners are equipped with a safety shut-off valve and a control motor.

Throughout the big plant, and especially in the paint department, superintendent Walter Pettigrew insists upon the maintenance of a high standard of clean housekeeping, as is evident in all of the illustrations that accompany this article. Cleanliness contributes to improved appearance, shop safety and better morale among employees.



Notice the two loaded conveyor lines. At right, coated parts are moving away from observer by conveyor to ascend into an oven on the roof. At left they are coming from the oven.

COSTS *can* BE FORCED DOWN

and here's how . . .

● Now, more than ever, the assistance of Glidden Technical Service can be an important factor in reducing your operational costs. Now, more than ever, Glidden's trained finishing experts can help you by:

1. Reviewing your entire finishing operation and materials . . .
2. Recommending the right finish for your products—in line with your facilities . . .
3. Eliminating slow-ups or stoppages in your production line through constant preventive service . . .
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Plan now to use Glidden Technical Service for operational assistance . . . and Glidden Industrial Finishes for performance that will set a new low record in your finishing costs.

THE GLIDDEN COMPANY

National Headquarters · 11001 Madison Ave., Cleveland 2, Ohio

Factories and Sales Offices in: Chicago (Nubian Division), Cleveland, Reading, Pa.; Minneapolis, New Orleans, St. Louis, San Francisco. *In Canada:* The Glidden Company Limited, Toronto, Ontario. *Sales Offices in:* Atlanta, Boston, Los Angeles and New York City.

QUALITY Glidden PRODUCTS

TAKE YOUR PROBLEM TO . . .

Glidden *Industrial Finishes for every purpose*

Charles M. Dunn Promoted by The Glidden Co.

Charles M. Dunn, Jr., has been appointed assistant manager of The Glidden Co.'s direct sales department in Cleveland, Ohio. Mr. Dunn will continue as director of the technical service department in Cleveland, a position he has held for more than a year.

Charles M. Dunn, Jr., Assistant Manager of The Glidden Co.'s Direct Sales Dept. in Cleveland.

Mr. Dunn joined Glidden as a technical correspondent in the industrial sales division soon after his graduation from Case Institute of Technology in 1939. After service in the Air Forces during the war, he returned to Glidden as assistant manager of aviation sales and was promoted to manager in 1946. His appointment as director of the Cleveland technical service department was made in September, 1947.

Monsanto Condenses Its Plastic Trade Names

Striving for simplification of trade names, Monsanto Chemical Co., is changing the names of all of its polystyrene products to the single name of "Lustrex." Single letters from the alphabet, as well as combinations of letters, will be used in connection with the name Lustrex to designate various types of plastics, such as Lustrex L-PIA for transparent colors and Lustrex L-PIX for crystal, etc.

Shuman Chemical Products; Synthetic Pearl Essence

An announcement from Celanese Corp. of America, 180 Madison Ave., New York 16, N. Y., states that the company has discontinued manufacturing H-Scale synthetic pearl essence, but has transferred this business over to Shuman Chemical Products, Inc., 58 John Hay Ave., Kearny, N. J.

Mr. R. L. Shuman, President of the new company, states that: "In order to efficiently service former customers of the Celanese Corp., we have purchased much of their equipment and obtained the services of some of the personnel who were engaged in this work at their plant.

"The new name of the synthetic pearl essence will be 'Chem-Scale' and we intend to use improved techniques designed to insure standard quality, and to make prompt shipments. Chem-Scale, cements, adhesives, pyroxylin and celluiose acetate solutions are now in production at the Shuman factory."

New Wrinkle & Chadeloid Elect New President

Announcement is made by New Wrinkle, Inc., and Chadeloid Corp., of the election of Robert F. Ohmer as president of both concerns.

New Wrinkle, Inc. is licensor of more than 200 industrial finish manufacturers under its Wrinkle finish patents; Chadeloid Corp. serves nearly 100 licensee manufacturers of its patented wood stain formulations. Both organizations maintain research, application service and promotional activities on behalf of the respective licensees.

Robert F. Ohmer Now President of New Wrinkle and Chadeloid Corp.

Mr. Ohmer was formerly president of New Wrinkle, Inc., from its inception until the middle of 1942, at which time he left for duty with the United States Army Air Force.

During the war Colonel Ohmer held senior responsibilities in the vast business operations of the Atlantic Overseas Command, which supplied the European and North Africa theatres with equipment and materials. Later he became Deputy Commander of the Pacific Overseas Command, which was charged with supplying the Far Eastern operations of the Army Air Force.

Mr. Ohmer will establish the main office of New Wrinkle, Inc. (heretofore in Dayton, Ohio) in Chicago. The laboratories will continue at Dayton.

Suite 1819 Bankers Bldg.

Suite 1819 Bankers Bldg.
105 West Adams St.

NEW WRINKLE INC.

CHICAGO 3, ILL.

These are the licensed manufacturers of Wrinkle one-coat finishes:

Acme White Lead & Color Works, Adams & Elting Co., Advance Paint Co., Akron Paint & Varnish Co., Allied Finishing Specialties Co., American-Marietta Co., American Paint Works, J. L. Armitage & Co., Anglo-American Varnish Co., Arco Co., Arco Co. of California, Ltd., Atlas Powder Co., Baer Bros., Baltimore Paint and Color Works, Inc., Barrett Varnish Co., R. A. Becker Paint & Varnish, Benton-Climo Co., Berry Bros., Inc., Better Finishes & Coatings, Inc., Bigelow Varnish Co., T. L. Blood Co., Boston Varnish Co., Boydell Bros. White Lead & Color Co., Braddock Paint & Glass Co., Bradley & Vrooman Co., Bradley Wise Paint Co., Breinig Bros., Inc., Brininstool Paint Co., Andrew Brown Co., A. Burdsal Co.,-A. C. Buschman & Co., Inc., California Paint Co., Campbell Paint & Varnish Co., Capital Chemical Co., John G. Carlsen Co., Chemical & Pigment Co., Chemical Coating Corp., Chicago Bronze & Color Works, Cincinnati Varnish Co., Inc., Cleveland Paint & Color Co., Clinton Co., Clover Leaf Paint & Varnish Co., Coatings & Chemical Corp., Coatings Material Lab., Inc., Cook Paint & Varnish Co., Dan V. Davis Co., DeSoto Paint & Varnish Co., Detroit White Lead Works, Devoe & Raynolds Co., Inc., Dibble Color Co., Ditzler Color Division, V. J. Dolan & Co., Inc., F. J. Donahue Varnish Co., Drexel Finishes Co., Duraloc Chemical Co., Eagle Paint & Varnish Works, Eastern States Paint & Varnish Co., Edlo Paint Co., Enterprise Paint Mfg. Co., Euston Lead Co., Farboil Paint Co., Federal Varnish Co., Federal Waterproof Co., Inc., Ferbert-Schorndorfer Co., Leon Finch, Ltd., Flint Paint & Glass Co., Flood & Conklin Mfg. Co., Forbes Varnish Co., Foy Paint Co., D. C. Franche & Co., Benj. Franklin Paint & Varnish Co., Frost Paint & Oil Corp., W. P. Fuller & Co., General Paint Corp., P. D. George Co., Glidden Co., Grand Rapids Varnish Corp., Hanna Industrial Finishes Co., Hanna Paint Mfg. Co., C. W. Haynes Lab., Inc., Heath & Milligan Mfg. Co., Hill, Hubbell & Co., Hilo Varnish Corp., Homestead Paint & Glass Co., A. C. Horn Co., Illinois Paint Works, Impervious Varnish Co., Indianapolis Paint & Color Co., Indianapolis Varnish Co., Inc., India Paint & Lacquer Co., Interchemical Corp., Inter Coastal Paint Co., Jamestown Finishing Products, Inc., Jamestown Paint & Varnish Co., Jewel Paint & Varnish Co., Jones & Dillingham Co., Jones Dabney Co., Kay & Ess Co., Kellerman Paint Co., Keystone Asphalt Products Co., Kirker Chemical Co., Lacquer & Chemical Corp., Lasting Products Co., W. W. Lawrence Co., Lilly Varnish Co., Lincoln Paint & Color Co., Chas. R. Long, Jr., Co., Lowe Bros. Co., John Lucas & Co., Inc., Maas & Waldstein Co., Magner Bros. Paint Co., Mansfield Paint Co., Martin-Senour Co., Martin Varnish Co., Mileti Co., Minnesota Linseed Oil Paint Co., Monroe-Sander Corp., R. N. Nason & Co., National Lacquer & Paint Co., National Mfg. Corp., Newark Varnish Co., New England Lacquer Co., A. P. Nonweiler Co., Nubian Paint & Varnish Co., Ohio Paint & Glass Co., Old Colony Paint & Chemical Co., Pacific Paint & Varnish Co., Palmer-Price Co., Patterson-Sargent Co., Payson Paint & Varnish Corp., Peninsular Paint & Varnish Co., Perry-Austen Mfg. Co., Phelan Faust Paint Mfg. Co., Pittsburgh Plate Glass Co., Pontiac Varnish Co., Pratt & Lambert, Inc., Premier Paint & Varnish Co., Processed Chemicals & Coatings Corp., Randolph Finishing Products, Rasmussen & Co., Reliance Varnish Co., Rinshed-Mason Co., Rockford Varnish Co., Royal Lacquer Co., Schaefer Varnish Co., Schreiber Paint & Glass Co., Scriver & Quinn, Seattle Co., Sewall Paint & Varnish Co., Sheboygan Paint Co., Sherwin Williams Co., Sillers Paint & Varnish Co., Inc., Skinner Paint & Varnish Co., Smith-Davis Paint Co., Sound Paint Mfg. Co., Speed-O-Lac Products Co., F. E. Spencer Co., Gilbert Spruance Co., Standard Paint & Glass Co., Standard Varnish Works, Stanley Chemical Co., Ste-Rite Lacquer Corp., John A. Steen Varnish Co., Sterling Lacquer Mfg. Co., Stewart Bros. Paint Co., Strathmore Products, Sunbrite Mfg. Co., Sun Chemical & Color Corp., Sullivan Varnish Co., Tenax Finishing Products Co., Thresher Varnish Co., Toch Bros., Inc., Tousey Varnish Co., Triangle Paint Co., True Togg Paint Co., Twin City Varnish Co., Unifilm Paint Products Co., Union Chemical Co., United Finish Co., United Lacquer Mfg. Corp., Universal Paint & Varnish Co., Vita-Var Corp., Voltax Co., Inc., Wabash Products Co., Wadsworth Howland & Co., Waggoner Paint Co., H. V. Walker Co., Watson Paint & Glass Co., Watson Standard Co., Western States Lacquer Corp., Geo. D. Wetherill & Co., Inc., A. Wilhelm Co., William-Hayward Varnish Co., Wisconsin Paint Mfg. Co., Wyandotte Paint Products Co., Yarnall Paint Co., Zapon-Brevolite Division

CANADA

Berry Bros., Inc., British-American Paints, Glidden Co., Pratt & Lambert, Inc., Standard Paint & Varnish Co., Ltd.

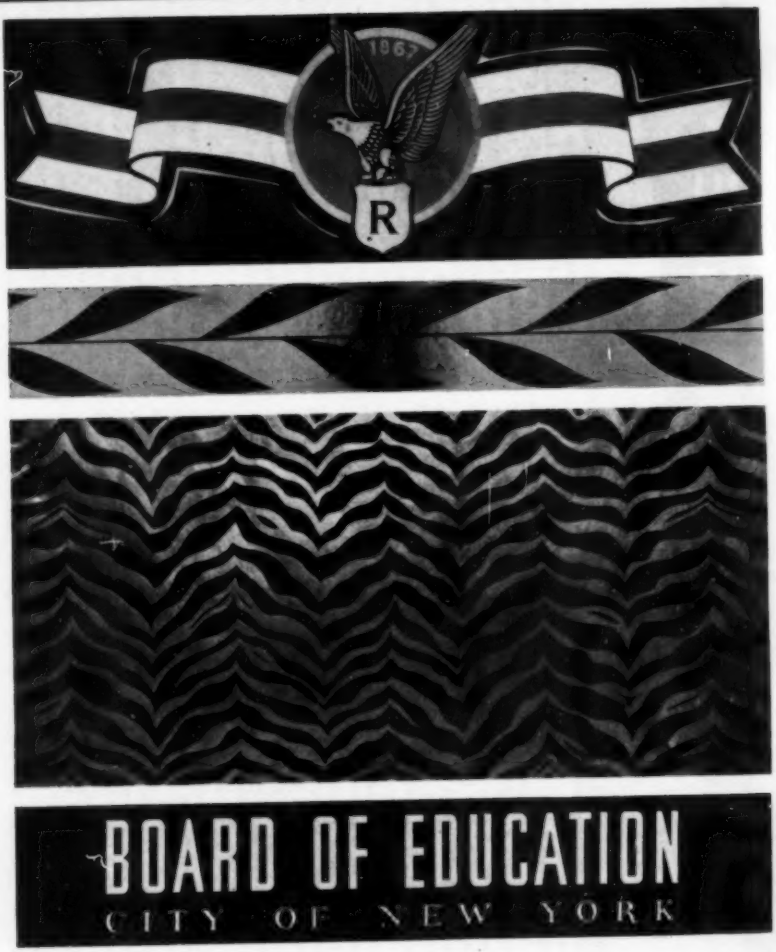
ENGLAND

British Paints, Ltd.

SWEDEN

Aktiebolaget Wilh. Becker

THE SILK SCREEN



PROCESS FOR Industrial Users

By J. I. BIEGELEISEN

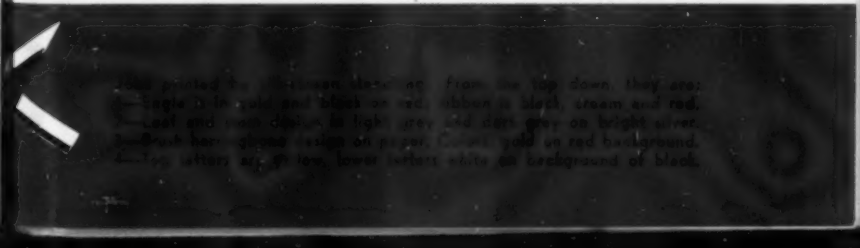
Author and Technical Consultant on Silk-Screen Printing

(PART I)

ALTHOUGH THE silk-screen process was originally used almost exclusively by sign painters and producers of advertising of all kinds, the process is now widely used by many diverse industries quite unrelated to advertising and sales promotion. For instance, the silk-screen process is used by manufacturers of lamp shades, by textile printers, manufacturers of toys and nursery furniture, wallpaper houses, and by those who do printing on linoleum, trays, pillow cases, pennants, radio dials, etc. This by no means exhausts the list.

Among the most unique uses I ever heard of, in the application of this flexible printing process, is in a large fur house which uses the silk-screen stencil process to convert cheap rabbit skins into furs resembling leopard skins. This is done by the simpe expediency of stenciling spots of colored dye onto the cheaper rabbit skins.

Another rather extraordinary use made of this process was initiated during the war and has created quite a stir in the electronics and radio industry; it is the "printing" of wires. Heretofore, one of the most expensive operations in electronic devices, such as small radios, hearing aids, etc., has been the wiring—the fine network of wires laid along prescribed routes in the most painstaking manner. This called for the patience of an engraver or Swiss watchmaker, and



naturally it was an important factor in the production cost of such items.

One fine day someone had an idea. Why not stencil on a heavy deposit of thin strands of metallic paint onto a plastic or other nonconductive surface and do all of the wiring in this fashion as one operation? In this case, the stencil process was used to lay on a deposit of metallic paint. The printed "wires" are not only less expensive than the actual wires laid by hand, but the work is more uniform, the thickness of the wires is under close control, and mass production is made possible through economy and speed.

Printing Process; Japanese Stencils

This printing process is in a class by itself. It does not fall into the three traditional categories of printing—namely, planographic, relief or intaglio. It is an adaptation of the stencil process long known to decorators and Oriental printmakers. Everyone is familiar with the decorators' stencil. It consists of a sheet of thin metal or oiled paper having holes (perforated in accordance with the design) through which paint can be brushed.

You may not be familiar with the early type of Japanese stencils which were the forerunners of the silk-screen stencils as we know them today. These were oiled paper, finely cut out in the most intricate design. These Oriental artists did not confine themselves to dot and dash designs, so typical of the decorators' stencil. By this I mean that whereas the cheaper type of decorators' stencils have little ties or connections holding the center pieces together, the Japanese used human hair laid across the openings, with the "islands" of the stencil carefully glued on to keep them in suspension. Despite the fineness of these Oriental stencils, and the care and skill that were necessary to produce them, they did not compare to the type of stencil used commercially today.

The silk-screen stencil of today is a mesh-work of silk strands (and not of human hair) onto which the stencil is painted or adhered. It is in every way practical, commercial, and by all means versatile. It is something that you should consider carefully because there may be some use you can make of it; and in view of the fact that it takes so little equipment to get started, there should be no real handicap, except possibly inertia, to keep you from beginning to experiment with it.

Silk Screen Stencils of Modern Type

Now to return to the more technical aspects: The process derives its name from the fact that a screen made of silk is used as a background and support for the stencil. The screen is composed of special silk, finely woven with uniform mesh—a fabric of great durability. This silk fabric is stretched over a rigid flat wooden frame.

No special kind of lumber is required to make the stencil frame. Almost any straight wood strips free from warps or knots will do. Generally, furring strips are used. The screen is porous and can be

blocked out with lacquer or shellac or other substance so that it becomes non-porous in the desired areas. When you are doing this you are, in effect, making a stencil, for the stencil consists of certain areas, parts of which are blocked and parts of which are open. The methods of closing the silk involve certain technicalities which we need not go into at present.

Photographic Stencils Extend Possibilities

It is perhaps of benefit and encouragement to non-artists to mention this point: Stencils can be made photographically, much the same as engravings, without the need of any specialized skill. These photographic stencils have greatly extended the possibilities of silk screen work. Whereas formerly, the several methods of making stencils by painting in areas by hand called for specialized artistic skill and produced work limited by that which could be painted in by hand, the photographic method has made it possible to produce type and design that compare favorably with that of letter press printing and other engraving methods.

Fine labels, trademarks, drawings, line-work of all kinds—in fact anything that can be photographed —can be silk-screened. Once the stencil is made, whether it be painted in by hand or produced automatically by the photographic methods, the principle of printing remains the same; in fact, it is the same principle that operates in all stencil printing methods, even those early Oriental methods we talked about, or decorator's stencils.

Printing wallpaper by screen stenciling.

Simple Equipment and Operating Procedure

Paint is made to go through the perforations of the stencil, resulting in an absolute facsimile of the design or pattern. The procedure of printing is for the most part manual; it is simple and direct; it consists of dragging a quantity of paint across the stencil with a squeegee. Paint is pressed through the openings, leaving a deposit of paint on the surface over which the stencil is placed. This is called squeegeeing, since a rubber squeegee is used for dragging the paint across the stencil and pressing some of it through the open mesh of the screen.

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The set-up for printing is as follows: A card or panel to be

printed is placed on the printing table. The stencil is lowered over it. Soft paste process paint is squeegeed across it. The stencil is lifted and the print is ready. In this manner, 300 or 400 prints an hour are possible. Of course, the quantity will depend upon the particular surface on which you are printing, as well as on the size of the printing area.

Manual Operation Extends Versatility of Silk Sreens

The essential thing to remember here is that with the silk-screen process, you have a device for automatically laying on any type of paint, or for that matter, any viscous material — even glue, dye, paste, etc. It doesn't matter whether the material on which you are printing is glass, wood, metal, leather or cardboard; it all works the same way. Nor does the size matter, because a larger printing area merely means a larger stencil.

In view of the fact that the greater part of the printing is done by hand with handmade stencils, there are no machine maximums to limit you in size. In other words, if you desire to print a sheet of metal say 10-ft. long, you can do it by building the screen large enough to accommodate the metal.

Just as you are free to tackle almost any size of printing surface, you are also free from any limitation as to the particular thickness of the type of material to print on. For instance, supposing you want to print on ¾-in. lumber. The stencil rests on the surface of the printing area, and it doesn't matter whether it rests on ¾-in. lumber or on 4-ply cardboard or on glass.

In view of the fact that the types of printing surfaces differ widely, the printing inks or process paints must be formulated to accommodate the particular nature of the stock. In other words, you would not use the same kind of paint on flexible rubber as you would for painting a design on neckties, or for painting glass signs.

Fortunately, a great deal of the pioneer work in silk-screen printing has already been done, therefore it is not necessary for you to be a paint chemist and formulate your own paints. You can buy process paints already made to meet specific requirements, such as paints that are glossy or dull, flexible or brittle, fast-drying or overnight driers; also paints that will withstand washing, or paints that are acid-resistant. In other words, by this time your dealer probably has on his shelves paints formulated to do many kinds of specific jobs.

Variety of Paints and Materials Available

Paints can even be made abrasive. Off hand, one might ask, "Why make paints that are abrasive?" Well, one manufacturer of blackboards knew why he wanted abrasive paints. Paints can be made to be transparent. The lampshade manufacturer has made good use of that type of paint. There are paints which are acid-resistant. Those who produce containers for cosmetics and perfumes needed such a paint.

To go back to that unique example of printing "wires," paint has been formulated with a high metal-

Dedicated to *better* finishes

Paralleling the progress of product design and development, Stanley's research staff has created many new and improved finishes for metal, rubber, plastic and textile products.

For example: There are coatings that have better adhesion and corrosion resistance . . . coatings to preserve and protect against the affects of moisture, gases, acids and alkalies . . . coatings that will unquestionably add greater sales appeal to your products.

If you have a product, regardless of its material, requiring a finish with special characteristics, ask us about it. Stanley Chemical Co., East Berlin, Conn.

STANLEY CHEMICAL

INDUSTRIAL COATINGS

LACQUERS SYNTHETICS JAPANS ENAMELS

lic content and to be a good conductor of electricity, in accordance with a specific use created in the mind of an inventive manufacturer.

If a particular type of paint is not available for your immediate use, the facilities of paint manufacturers are at your command and they will help create the paint for your particular purpose. That is the function of their laboratories.

Silk-screen stenciling is used by industrial finishers not only for decorative purposes, such as printing floral designs or wood grain effects or identification emblems, but also for less artistic purposes such as for applying a base for flocking suedes, for sandpaper, for beading, tinseling and smalting, etc. It may also be used for swatch pastings of catalogs, for spot varnishing, for applying etching compounds, etc.

Multi-Color Printing; Equipment Needed

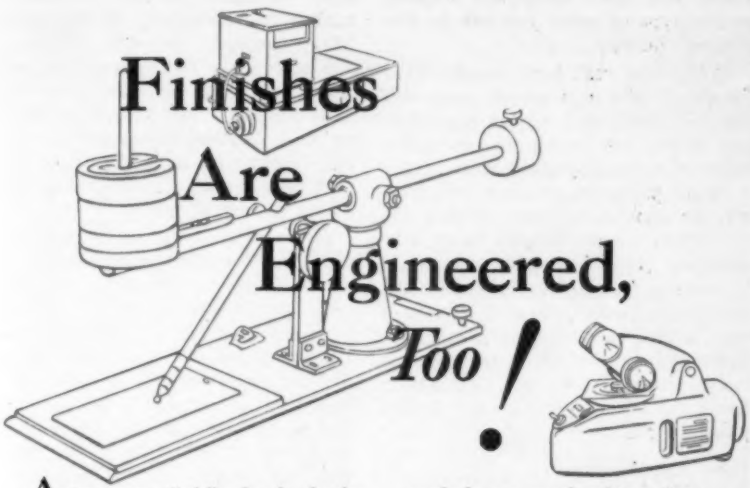
The printing may be in more than one color. The method of printing is so perfected that multicolor registration of hairline accuracy is just routine. You can get a job in 15 colors (if such a job should prove practical) and get all the colors to register accurately. It is merely a matter of careful makeready.

Now let us consider costs. What method can compare with the silk-screen process for practicability or economy. For one thing, no machines are used. No special precision tools nor elaborate equipment are necessary. As you have already seen, the printing unit is just a wooden frame with silk stretched tautly over it. The printing "bed" consists of a work bench or flat table top upon which the screen is hinged. The squeegee is a simple hand tool consisting of a heavy rubber blade sandwiched between two pieces of wood — a sort of rough cousin to the wiping squeegee used by your window-washer.

Materials; Supplies; Custom Stencils

You will need paints, varnishes or whatever type of printing media you intend to use—and a photographic department if you intend to make your own stencils. You do not necessarily have to make them yourself because many of the larger silk-screen dealers are equipped to prepare stencils for the trade. They make the stencils and you do the printing. You will also need drying racks. In view of the fact that some paints take as long as overnight to dry, you will need drying racks on which the prints can be placed individually without touching one another. How many

Showing how the squeegee is used.



ANYBODY can "stir" a batch of paint . . . anybody can match colors—after a fashion. But technical knowledge, skill, and experience are essential to get the benefits of modern plastic resins, plasticizers, pigments, and other developments of today. Finish—even on quality articles—may represent but a small fraction of the cost . . . but, oh, how important it is to appearance, usefulness, wearability, and salability.

Here's where the manufacturer of an article must rely on the technical know-how of the finish maker. Only by combining this know-how with *your* skill and manufacturing facilities can the best results in your finished product be achieved. That's the big why and wherefore of the *engineered* finish!

A case in point is ZAPON. ZAPON DURANITES are heat-reactive, plastic base finishes especially developed for their tough characteristics and beauty of appearance. DURANITE-H is a finish that is *superior to porcelain* in impact-resistance, adhesion, flexibility and economy. ZAPON metalites . . . ZAPON one coat hammer . . . ZAPON clears . . . ZAPON DIP-DURANITES all are high-speed metal finishes ideal wherever perfection is necessary.

Our engineers will gladly apply their experience and knowledge to the task of determining just what factors will fill *your* need for enduring eye appeal and serviceability. This is the *plus* feature that has made ZAPON *service* as famous as the ZAPON *product.*

ZAPON

Industrial Finishes

ATLAS POWDER COMPANY

Stamford, Conn. • North Chicago, Ill.

racks you may need will depend on the type of paint you use, or the size of the run.

What has just been enumerated is all of the equipment you will need. A large silk-screen plant has the same but more of it—more stencils, more squeegees, more racks, a larger paint department, and usually its own stencil preparation department. If you intend to go into printing ceramics or if you want to hasten the drying time of the particular paint you use, then you may want to use oven heating—perhaps infra-red. However, this is optional equipment, not necessarily basic to the average silk-screen printing plant.

New Applications; New Markets

Your part in this industry will not be so much that of introducing new methods or formulating new paints as it will be in creating new applications, new fields and new markets for the silk screen process. And they are limitless in their scope and range.

Space at this time does not allow for a more elaborate treatise on this process, though I am quite sure that many questions have arisen in your mind as you have read this article. In anticipation of some of these, the following questions and answers may prove to be interesting and informative.

Questions and Answers on Silk Screen Process

Is silk-screen a patented process?

The basic silk-screen process is not patented. Anybody may build or buy equipment and start his own plant without license or official authority. However, although the basic process is not patented, silk-screening of cylindrical surfaces has been patented recently. This includes silk-screen printing on milk bottles, beverage containers, cosmetic containers, etc.—in fact, any round surface regardless of its use or material.

If you don't want to do your own silk screening, are there professional plants for doing the work on a real commercial basis?

There are shops all over the United States. Consult the classified business section of your local telephone directory. You will also find some shops that have made a specialty of printing a particular type of work. There are shops that do nothing but textile printing; others specialize in printing decalcomanias; still others specialize in the printing of metal signs. There are shops that do printing of color charts for the paint industry, as well as color charts for the cosmetic industry showing lipstick colors, nail polish colors, powder bases, etc.

In starting one's own shop, is it difficult to obtain good help to get the ball rolling?

You will need at least on experienced person to manage the shop. The other help can be semi-skilled.

Machines Are Used for Long Standard Runs

You have said that silk screen is manually operated? Aren't there any machines that can be used to speed up production?

Machines can be used and are used where the type of work that is done is standardized. For in-

is your problem **SIMPLE** *or* **TOUGH ?**

• Providing your product with an attractive and durable finish may be just a routine production step—or it may be a rather involved process. But whether it's very simple or extremely complicated, you can assure yourself of the best results when Watson-Standard supplies the finishing system you need.

• From a simple one-coat finish to a complicated multiple-coating system, Watson-Standard devises the exact process required to give your product a decorative and functional coating. A few of the systems already developed by our laboratories include those for bicycles, signs, refrigerators, crowns and closures, high heat and vinyl processing, canisters, meat pack processing and sizes. *Write us today about your coating problem.*

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Prescription Finishes
Give us your coating problem
We guarantee you an answer based
on your conditions, and not just a
standardized formula.

THE WATSON-STANDARD CO.
Manufacturers of
PAINTS • VARNISHES • INDUSTRIAL FINISHES AND LITHOGRAPH COATINGS

FACTORY AND GENERAL OFFICES, PITTSBURGH, PA.
WAREHOUSES: BOSTON, BUFFALO, DETROIT, NEW YORK

stance, all of the cylindrical printing done in great volumes is done either by automatic or semi-automatic silk-screen process. There are silk-screen printing machines available with three times the speed of any hand-operated process. However, these machines are best suited for the longer runs and for work that is within the limits of certain sizes and thicknesses of stock.

Will machines eventually replace manually operated silk-screen reproduction?

At the risk of having to "eat" my own words at some future date, I would say that there will always be a demand for hand-operated silk-screen work. No machine can be built that will be so versatile as to be used for interchangeable printing from the size of a postage stamp to that of a mural, or from thin tissue paper to fabricated bridge table tops. A machine can be easily built to do a specific job but it seems unlikely that one machine could do all of these things as one unit.

Durability of Stencils; Reusing the Silk

What is the limit or life of a stencil? Also, can the same stencil be used for repeat runs?

A stencil can be made to last for 50,000 prints or more. The stencil can be reused many times, even after having been stored away for years. In runs that take more than one day, the stencil is washed at the end of the day and put to work again next morning .

Can the same silk be used for more than one design, or must the used silk be ripped off and replaced with new silk every time a new design is printed?

The silk can be used over again. When the design you print is no longer needed and you do not expect a repeat, the stencil can be dissolved from the screen, leaving it unimpaired and ready for a new stencil.

Use Same Squeegee; Multi-Color Work

Is a different squeegee necessary for each job?

No, the same squeegee can be used to print any color. When the job is finished and the screen is clean, the paint is removed from the squeegee and it is ready for the next job, no matter what color is used.

In a multi-color job, is each color printed separately, or can a few colors be printed at the same time?

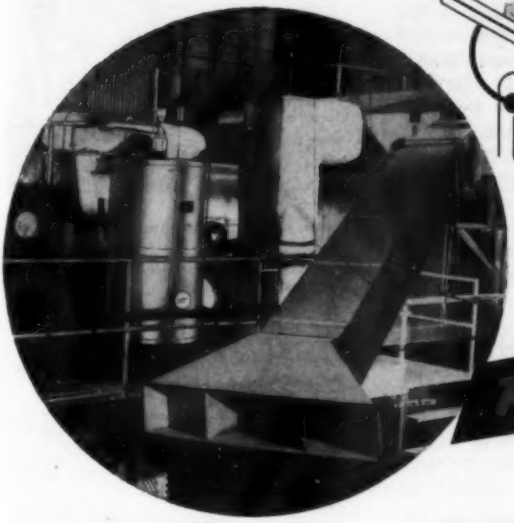
Each color must be printed separately. In a 3-color card job, for example, the card must be processed three different times. Each time, of course, the card must be placed accurately in the register guides. However, where two or more colors are distant from one another on the same design, they may be printed simultaneously by split-fountain arrangement whereby the screen is divided into compartments, each with its own color and squeegee.

A general impression is that silk screen work is an expensive process. Is there any truth in that belief?

The question may be answered to your satisfaction by giving you this observation—that many litho-

PROBLEM...

to design and install an efficient drier without utilizing floor space!



RESULT

ANSWER...

Ferro engineers were put on the job . . . Working as one part of a team, Ferro engineers designed a 1,000,000 BTU direct gas-fired heater requiring only *one cent or less* for fuel* to process each unit range body in ground coat . . . Other Ferro engineers installed an efficient monorail drier (consisting of housing, fans, controls, etc.) expertly positioned in unused overhead space — leaving previously occupied floor area for other use.

Satisfied Customer: **TAPPAN STOVE COMPANY**
Mansfield, Ohio

* 1000 BTU fuel • 1000 cubic feet per hour • 50¢ per 1000 cubic feet

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enamel corporation
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graphic shops farm out work to silk-screen shops, and add on a mark-up to the cost. Furthermore, the lithographic shops have high-powered presses compared to the average silk-screen shop with its manually operated equipment. The reason silk-screen shops can turn out the work at less expense is because stencil plates are less costly than printing plates and make-readies are comparatively simple.

The silk-screen job can be completed at a cost lower than that of the plates used in other processes. However, for large runs, where a job can be done equally well by letterpress or lithography, these processes, in view of the fact that they use fast machines, would naturally be much cheaper. *(To be continued)*

Bibliography (Books)

"Silk Screen Reproduction", by Zahn.
"Silk Screen Printing", by Hiett.
"Silk Screen Printing Process", by Biegeleisen & Busenbark.
"Silk Screen As a Fine Art", by Biegeleisen & Cohn.

Poly-Cyclo Appointments

The Poly-Cyclo Products Co., Cleveland, Ohio, announces the appointment of Ray W. Grace, vice president in charge of technical sales through the company's affiliate Munray Products, Inc.

Ernest A. Munkacsy as secretary will be manager of plant production control.

The firm manufactures protective items such as corrosion resistant plastic and synthetic paints, tank linings, etc.

Attention, Chemists

Chemists who would like to contribute formulas and recipes for useful compositions for publication in Volume IX of the Chemical Formulary will please communicate with the editor-in-chief.

Contributors will be listed on the board of editors and will receive a free copy of the book when published. Please address your communications to H. Bennett, Editor, 26 Court St., Brooklyn 2, N. Y.

Monroe Sander Elects Assistant Treasurer

Harold R. Tanney has been elected assistant treasurer of the Monroe Sander Corp. of Long Island City, N. Y., manufacturer of industrial finishes. Mr. Tanney is a technical sales representative and covers the New York area. He had a distinguished war record as a Major in the United States Army Air Corps.

H. R. Tanney, now Assistant Treasurer of Monroe Sander Corporation of L. I.

Wyandotte Paint Products Co. Has New Sales Manager

Charles E. James has been appointed General Sales Manager of Wyandotte Paint Products Co., Wyandotte, Mich. Mr. James has had more than 20 years of sales experience in the automotive finishing field.

Chas. E. James, Appointed General Sales Manager of Wyandotte Paint Products Co.

Organized in 1932 for the manufacture of automotive and industrial lacquers and enamels as well as factory maintenance finishes, Wyandotte Paint Products has recently acquired additional acreage and erected another modern paint plant. It is the company's intention to broaden its field technical sales service.

How to handle a finishing job with ONE COAT INSTEAD OF TWO

You save labor time, labor expense! You save materials! And you get a *better* finish . . . in just one coat instead of *two!*

The high solids content of a fine, new Monsanto finish means heavier film and fewer coats, an important advantage in cutting unit costs on wood turned objects such as handles for kitchen utensils, paint brushes, textile bobbins. Here is new, outstanding economy in a substantial, competent finish. Please send the coupon for more information.

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Every time you want all this and a lot more . . .

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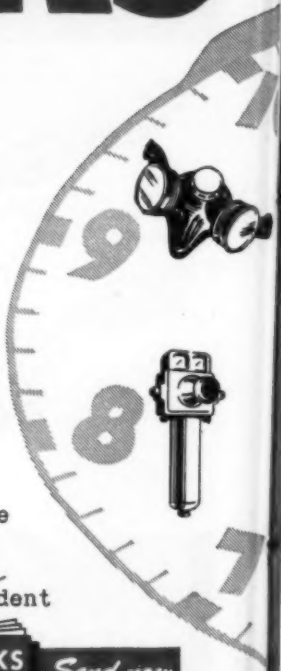

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President

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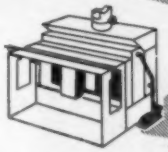

RECONDITIONING AND PAINTING

Steel Drums

By Morris Fox

The Superintendent of Reliable Steel Drum Company describes methods used to recondition, line and paint used steel drums.

OPEN HEAD drums are used as shipping containers for all sorts of solid, semi-solid and liquid materials, ranging from food to chemicals. As a consequence, used drums may contain a residue of grease, tar, paint, etc., which must be removed. This residue cannot be removed by any

Spray painting a 2-color drum as it rotates in the spray booth. Drum heads will be the same color as the middle band. Two operators spray these 2-color jobs without masking.

WORDS OR FACTS-WHICH DO YOU PREFER?

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IT'S THIS SIMPLE

1. **Analyze the particular finishing problems demanded by your specific product.**
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3. **We will send you a generous working sample of the best possible formula for your specific needs—absolutely free.**

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lacquers
thinners
synthetics
metallized finishes
special coatings

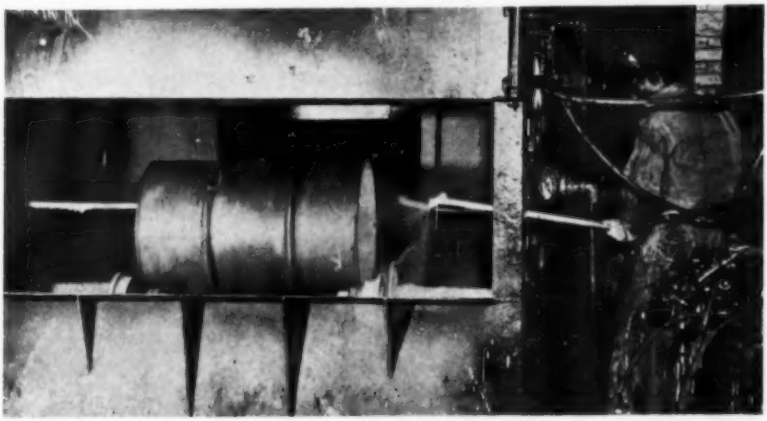
ordinary cleaning process. Our method of cleaning these drums is as follows:

Drums that come to us are unloaded from freight cars and trucks and are placed on a conveyor to be carried into a burn-off furnace in which a high temperature is developed. At the exit end of the furnace, drums are inspected for dryness, that is, to determine if all the residue is completely charred and dry. If the residue in any drum has not been made thoroughly dry, that drum is sent back through the furnace.

After the drum interiors are "burned" dry the drums proceed to the blast cleaning machine where their outside surfaces are blasted as the drum revolves in the cleaning machine. Next, the entire inside surface of the drum is blasted. This is done on a revolving turntable. The drum is inserted in the machine (open end down) and is thoroughly blasted and cleaned when the cycle is completed. Drum covers are blasted in a separate machine. Grit blasting, both inside and outside, cleans the drum down to the metal and provides an excellent surface for lining the inside and painting the outside.

Drums which, through rough treatment, have been dented, move to a machine where steel rollers roll out the dents and reshape the rolling hoops. Next, the drum goes to the chime machine, which straightens out bent chimes and seals the joint between the bottom and the side.

The final reconditioning operation is done on a pulsating machine which trues up the open end of the drum so that the cover will fit it properly. Inspection follows. The inspector places the drum on a turntable over powerful lights



Spraying a white sanitary lining coat on inside of drum as it revolves. An extension nozzle is used to reach inside the drum, clear to the bottom which must be coated too.

JAPCO LACQUER REPLACEMENT ENAMELS are different from any Industrial Paint Finish you have ever presented to your Finishing Department. They are so radically new as to merit your most serious consideration in 1949.

INVESTIGATE!!! WRITE FOR BULLETIN No. 136

JAMESTOWN PAINT & VARNISH CO.

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Industrial Finishes Since 1885

sunk below floor level. Light shows through holes or cracks if there are any in the drum. If any holes are discovered, the drum is sent to the welding department for repairs. Good drums proceed to the finishing room.

How Drum Lining Material is Applied

First, the drum is placed on a pair of step-cone pulleys mounted on revolving shafts inside the spray booth. As the drum revolves, the operator sprays the interior lining material into it through an extension nozzle. The nozzle is attached to the extension at a 45° angle.

After its interior has been coated, the drum is rolled onto a moving conveyor which carries it into an oven where the lining is baked for 9 to 15 minutes at temperatures ranging from 225° to 450° F., depending on the material used for the lining coat. When the drum emerges and cools, a cover is placed on the open end and a ring is put on before it is returned for outside painting.

Protective coatings are applied to protect the contents of the drum from contamination which would ordinarily result from contact with plain steel. The development of these coatings has been a boon for many manufacturers. Firms can now ship corrosive products in properly lined steel containers with confidence, whereas previously they had to use wooden barrels.

How Outside of Drums Are Painted in Color

The completely assembled drum is now placed horizontally on revolving pulleys inside the spray booth. As the drum revolves, operators spray the enamel on the body and ends of the container. If the drum requires two colors—for instance, an orange center section and heads, with the remainder in blue—two operators spray the different colors at the same time. Operator No. 1 sprays orange on the right hand head, while operator No. 2 sprays the right hand third of the body of the drum. Then, operator No. 1 sprays orange on the center section of the drum while operator No. 2 sprays blue on the left third of the body. Finally, operator No. 1 sprays orange on the left head of the drum to complete the job.

The painted drum is then rolled onto a conveyor which carries it through the oven where it is baked at 250° F. for nine minutes. Since masking is prohibitive from an economic and production standpoint, we must depend on the skill of the spray operators to do a clean cut job of color separation. An experienced spray operator can paint a center band on a drum so that it will be nearly perfect, and be comparable to a job done with masking tape.

Colors used for painting drums depend largely on individual customers. Identifying colors or combinations are used so that the company's product can be recognized merely by glancing at the container. Drums are generally painted in one solid color with the heads of a contrasting color. However, some companies prefer the center third of the drum painted in a contrasting color — perhaps for identification and for the decorative effect.

"We need the durability of a baked finish"

SALES MANAGER

get BOTH with ONE finish.... M&W's SYNPEX

Here's the finish for metal, wood or plastic products that satisfies both sales and production men. M&W's SYNPEX combines the beauty and durability of synthetic enamels along with the quick drying properties of lacquers. It's actually a combination of the best properties of both.

SYNPEX is available clear, or as metallic and enamel finishes in most colors. Applied by the spray or dip method, SYNPEX can be formulated for practically any baking or air-drying schedule.

See for yourself how SYNPEX can give your product lasting beauty for greater sales appeal and, at the same time, speed up your production. Write today for Technical Data Bulletin 106 or have an M&W sales engineer discuss your requirements with you privately.

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PRODUCTION MANAGER

PIONEERS IN PROTECTION M&W Co. 1876

. . . where industry goes with finishing problems

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st got you hog-tied?

ABSURD COMPARISON? Yes and no! Many production men get this restricted feeling when faced with today's costs.

If you are constantly on the lookout for a way to keep manufacturing costs *down* and quality *up*, perhaps it is time to go over your finishing methods and materials again. Actually, finishing costs play a vital part in your *total* end-cost . . . *involve considerably more than the mere price per gallon of the finish itself!*

All down the line . . . in factors such as drying time, storage space, labor costs, percentage of rejects, and packaging . . . the *right* finish, correctly applied, can save you money. Subtracted from end-cost, these savings may make a substantial difference in the final figure.

Take advantage of the possibilities for more economical production in your plant. Call on Du Pont. Today, thousands of pretested formulas under the trade names "Duco" and "Dulux" are helping to keep manufacturers' end-costs at a minimum.

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that make the most of available raw materials to give you greatest durability, together with attractive appearance and economy.

FOR APPLICATION BY ALL METHODS

JAMES B. DAY & CO., CHICAGO

1949 FURNITURE SHOW

"LET'S GIVE the public better styling, better construction, less freakish stuff, more for their money—and give the retailers some honest-to-goodness help in merchandising our products to the consumer." This seemed to be the New Year's resolution adopted and carried out by furniture manufacturers who displayed their wares at the winter furniture and home furnishings market at the American Furniture Mart in Chicago, the first two weeks of January.

Everywhere you looked there was distinct evidence of refining, polishing up and otherwise improving the basic designs that had received consumer acceptance during the past year or two. In almost all lines, from upholstered products right through to small appliances, there were just enough new features added to earlier models or lines to make the showing definitely new for 1949.

Excellent Construction; Plastic Fabrics

Sounder construction and greater comfort had been built into upholstered pieces, from hassocks to the

A kneehole desk with seven drawers, made of blond almon wood with walnut trim and base.

multi-section living room sofas. Foam rubber played an important part in seat, back and arm construction. Plastic cut strongly into the "monopoly' once enjoyed exclusively by woven yarn fabrics, which countered by breaking out in a whole new rash of rich and novel weaves in "decorator's colors". For the plastic fabrics — available in new finishes, such as Alpine and others simulating leather — there was a new reenforcing adhesive to eliminate the chance of ripping or tearing at stress points.

Greens, reds and gray still shared the limelight of color preference, but their tones were less vivid. A new orange-rust and grape were seeping in, and brown, in varying shades, held its own. Modern sectional furniture continued way out in front, but manufacturers of French Provincial and other period and traditional furniture were borrowing some of the features of modern design. Thus, there were more sectional French Provincial sofas, Victorian sofas covered with modern fabrics, and a trend away from the ornate to simpler design.

Living Room Tables; Leather Tops

No longer were upholstery manufacturers concerned only with upholstered pieces. They had found that "package groups", including correlated end tables, cocktail tables and lamps, appealed to buyers. Leather-topped tables appeared in every shape and form. There were all grades, from fine-grain, tooled leather to plastic simulated leather, and they appeared in red, green, yellow and light brown on every style table—18th Century, Duncan Phyfe, Georgian and Modern. The trend in occasional pieces was to bigger tables, and the television table has come to stay. Durable finishes were emphasized, and buyers favored mahogany, walnut and—in the modern finishes — blond, silver fox and black.

Finishes Attractive; Afara Wood

"Finishes" were the big news in case goods, in everything from the promotional, conventional suites to the high-styled, top-grade suites. Combination finishes were especially prevalent, such as Cordovan (a rich reddish brown or reddish black) with blond, Cordovan with walnut, blond with walnut. Other imaginative finishes included silver fox, Cloud Gray and Sunset Tan.

Afara wood, said to have many of the characteristics of mahogany, was shown in correlated bedroom and dining room suites with light finishes. Many bedroom and dining room suites in the middle brackets had been redesigned to give them greater utility, better appearance and unquestionable value appeal. Flexibility of individual chest and desk units had been increased by the use of variable compartments and novel drawer treatment.

A vanity bench with foam rubber cushion and small hosiery drawer; a dining room table with drawers for silver or napkins—these were some of the new features added to old designs. Pieces interchangeable between dining room and bedroom had increased in number, and chests had become more versatile than ever—incorporating all sorts

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VIBRATIONLESS
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National Air Sanders are carefully made of the finest material...and designed for years of efficient operation. The three different models shown above allow the customer to select the sander he desires for the type of job to be accomplished. The models 200 and 400 have an orbital type action with a single pad, and the model 300 a straight-line reciprocating action with two pads. All are vibrationless, powerful, and made of extra-strong lightweight alloys for ease of operation. Write National, largest exclusive manufacturer of air sanders, for details.

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ROCKFORD, ILLINOIS

of compartments, divided sections, drawers, niches for storing almost everything. Units maintained a compact, neat look, but somehow they were engineered to hold more. Greater emphasis was placed on junior dining room groups for budget-minded customers and also people with small apartments.

Modern Styles with Modified Blond Finishes

Modern bleached finishes are toned down, with accent on deeper shades of bisque, wheat and pickled wood effects. In some of the higher-priced lines cane is being introduced in dining and bedroom furniture and occasional chairs. Dressing tables and coffee tables feature tops made entirely of glass. Fine woods are used decoratively and luxurious effects are obtained by the use of burls. Form is becoming more rounded. Many pieces are off the floor; and legs are finely turned, yet neither spindly nor clumsily sturdy.

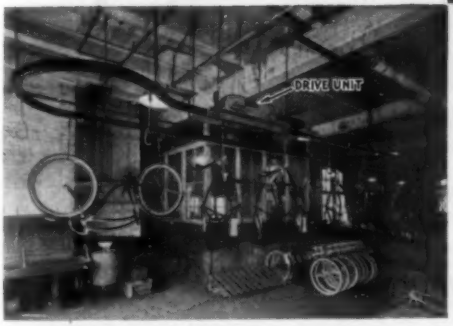
Summer Furniture in New Finishes

Summer furniture can be sold the year 'round—for indoor use. Influences are Chinese, Modern, also Traditional, with quite a touch of Victorian. New finishes include gunmetal, black, geranium red, and an antiqued metallic effect on white, rose and green.

In rattan, the trend follows modern in sectional sofas with zipper-closed upholstery, and there are

Silver Fox is the finish on this oak Chinese Modern oversize cocktail table 36x36-in. The parquet top has inlaid blocking with grain running in alternate directions.

Bananas or Bicycles



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3. *Zig-Zag Continuous Power Conveyor*—For smooth continuous movement of light loads within confined areas, and the handling of products through degreasers, dip tanks, spray booths, drying ovens, or similar applications.

Your nearest Richards-Wilcox branch will gladly furnish you with full details and complete engineering consultation without obligation.

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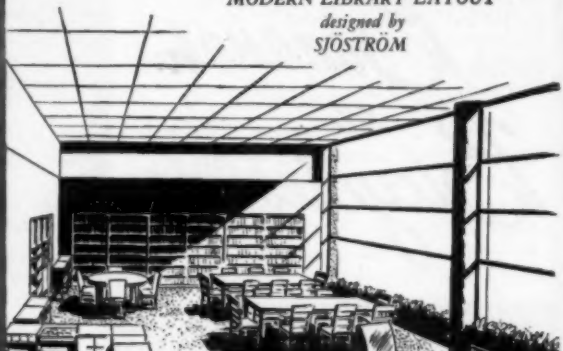

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The lustre, quality and durability of EGYPTIAN finishes enhance the attractiveness and promote the saleability of fine furniture. Specify "EGYPTIAN" for your products.

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INDUSTRIAL FINISHES

SYNTHETICS • LACQUERS • REDUCERS • THINNERS

multi-purpose tables. Black is an important finish. There are more folding chairs in the purely outdoor furniture. Gliders open up into full-size beds.

What Colors Are in Style for 1949

Forward we look to a new cycle of color. Brilliant color combinations of red and green and emerald grey are being followed by coral and blue, coral and grey, coral and celadon green. Black in lacquer pieces becomes most popular and can be placed with everything in the color picture—even in textured fabrics and backgrounds. Single colors to watch are ink blue, strong peacock blue, faded blue, with biege as the neutral to succeed grey; then taupe, moss green, cocoa, plum, pumpkin, and clear red.

Color groups for immediate promotion include earth tones like rust, leaf and moss green, brown, medium beige, and terra cotta. Significant is the return of blue from its light tints to the deep inky tones, that will combine well with coral and orange. Soft shades of green, such as avocado and greyed tones also combine well with the earth colors. There is a marked trend toward the luxury look in faded pastels, but don't forget the touch of black.

Mahogany; Walnut; Cherry; Fruitwood; Oak; Pine

Traditional furniture shows contemporized styling. Hepplewhite, with its simple form, has the lead. Colonial is reaffirming itself, with interiors redesigned from a practical storage angle. Much mahogany was in evidence, and probably more walnut than usual. Cordovan finish is more mellow in tone than it was. Antique pine and antique white are coming up. Marble tops are being used, with many decorator touches, in living and bedroom groups.

Contemporary Functional Modern is theme of this breakfront, a part of the Treasure House group shown at the American Furniture Mart during the 1949 Winter Market. It is made of mahogany finished in honey biege, with top section of cardinal mandarin red except the edges of shelves which are finished in honey biege. The solid brass hardware is highly polished.

French Provincial is a bit more elegant; more sophisticated; has more carving, and lighter finishes, such as pale grey, cream ,and oyster white. Some of it is pretty close to Louis XV and XVI. *(To p. 78)*

A look at furniture woods shows more attention to finishes with emphasis on burls and other figured grains. There was more fruitwood, cherry and apple, as well as mahogany and walnut. The over-stressed blond coloring is fading from the picture, stress being laid on natural finish and graining. Light finishes are darkening and dark finishes, especially Cordovan, are lightening. Grey is seen, emphasizing the grain.

Decorative Features; More Leather

Inlays and metal trim: Wherever price will admit, you will see a touch of marquetry. Metal too is used for decorative features. Gilt decoration is another way to get an ornamental look. Metal grilles are popular, particularly on all-priced provincial pieces. Hardware gives distinction in this market. Some manufacturers are having theirs made to order. There is less of the stamped, more of the cast hardware—especially burnished brass.

Leather is being used more lavishly. It is seen in the luxury chairs of contemporary, Georgian, provincial and club types. Some of the tab e tops are elaborately tooled and in many colors. Leather is being used for drawer front panels and even for the sides of chests.

Corrosion Conference In Cincinnati, April 11-14

The National Association of Corrosion Engineers will hold a conference in Cincinnati, Ohio, April 11 to 14.

Dr. N. E. Berry, Servel, Inc., Evansville, Ind., is chairman of the technical program committee. Technical papers prepared by men recognized as authorities in their respective fields will be given at 11 symposia.

Mikesell Joins United Chromium

Announcement is made by United Chromium, Inc., that W. H. Mikesell has been appointed as sales and service representative in the Chicago area for Unichrome and Synthetics and Ucilon Protective Coatings.

W. H. Mikesell Sales & Service Representative in Chicago for United Chromium.

Mr. Mikesell is a graduate of the University of Illinois with a B.S. in chemical engineering. During the war he served for three years in the U. S. Army Corps of Engineers. Before receiving this appointment, he received six months training in formulating, testing and applying all types of organic coatings, at the Carteret laboratories of United Chromium.

Devoe & Raynolds Appoints Assistant Chemical Director

Mr. Roscoe Hall Sawyer has been appointed assistant chemical director in the Devoe & Raynolds Co. Mr. Sawyer, a graduate of Harvard Engineering School and Graduate School of Arts and Sciences, comes to the company with a wealth of experience in paint physics. A prolific writer and recognized authority, he has contributed articles to many publications. As assistant Chemical Director under Dr. J. S. (Shorty) Long, he will make his headquarters in Louisville, Ky.

R. H. Sawyer, Becomes Assistant Chemical Director at Louisville, for Devoe & Raynolds

AMAZING TAPE SOLVES PROBLEM FOR SHIPPERS OF ENAMELED GOODS

Hold movable parts firmly in place during shipment with a special new cloth tape that *pulls off clean* and *leaves absolutely no stain* or discoloration! Bauer & Black Industrial Adhesive Tape No. 158 was specially designed to meet the need, among shippers of enameled goods, for a strong, non-staining binding tape. Here are the main advantages of Tape No. 158:

TENSILE STRENGTH: 46 lbs. per in. of width.

PULLS OFF CLEAN, with no messy residue.

Retains this quality at high temperatures—up to 180° F.!

ABSOLUTELY NON-STAINING, non-discoloring. Safely used on many white and pastel finishes (alkyd, urea and nitrocellulose lacquers). In photo above,* workman is applying Tape 158 to Kitchen-Kraft wall cabinet doors finished with Dupont Dulux baked-on enamel.

WRITE US for **FREE** test samples. Inquiries welcome. No obligation. Address Dept. 4-2 2500 S. Dearborn St., Chicago 16.

*Courtesy of the Midwest Mfg. Co., Galesburg, Ill.—one of the largest manufacturers of steel kitchens

A product of

BAUER & BLACK

Division of The Kendall Company, 2500 S. Dearborn St., Chicago 16

Industrial Adhesive Tape

PRESSURE SENSITIVE

Production Short Cuts to Reduce Costs • Research to Speed and Improve Methods

Spray Painting Masks

We notice in Dec. issue of INDUSTRIAL FINISHING, the article about "Finishing Fine Costume Jewelry", by Mr. Michael Spirito of Coro, Inc. Would you kindly give us Mr. M. Spirito's correct address at the Coro, Inc., so that we might contact him? As you know, we make spray painting masks, and we would like to send him a reprint of the article you ran about our product in January 1946. — Conforming Matrix Corp.

It's in Providence 2, R.I.—ED.

Paint Mixers

Will you kindly send us the names of manufacturers who make portable paint stirrers or mixers?—W. N. Corp.

Information sent.—ED.

Industrial Paint Progress

I have received a request from Dr. A. E. Gessler of our Research Laboratories for a reprint of the article entitled, "Twenty-Five Years of Industrial Paint Progress", which appeared in the November 1948 issue of INDUSTRIAL FINISHING. I am wondering if you have a few reprints available which you can send me, so that we will be able to comply with such requests without referring them to you?—P.O.B.

No reprints available, but we are sending you a few copies of that issue.—ED.

Burn-in Problem Solved

We want to take this opportunity to thank you sincerely for your help, which has proven valuable to us in regard to a finishing problem on burn-ins raising up on flat lacquers (see Questions and Answers, page 94 of January issue).

We tried putting a light coat of shellac over the burn-ins, as you suggested; then, when it was dry, we sanded it lightly; then we put on our final coat of flat lacquer and we got perfect results.—S.R.

Quick-Dry Peel-Off Coatings

In looking through INDUSTRIAL FINISHING Magazine, I noticed something about the quick drying peel-off coatings for temporarily masking certain metal parts. Could you refer me to the name of the company that makes this material?—E.Co.

Several different makes of such coatings are being made and sold. In a letter we are naming a few of them.—ED.

Finishes for Rubber

Referring to the article in December 1948 issue, entitled, "Special Rubber-Base Finishes for Rubber Products", we would appreciate obtaining the address of "Rubber Color Department, Sinclair & Valentine Co." (with whom the author of the article is connected) so that we may contact them relative to painting a small rubber article.—K.R.Co.

It's 611 W. 129th St., New York 27, N. Y.—ED.

Donolac Co. and "Plaz" Found

We notice in the "Letters from Readers" section of January 1949 issue of your magazine (page 90) that a "C. C. Corp." is inquiring about the Donolac Co., Inc., and the product we manufacture, "Plaz". We would appreciate your advising them where we are located, or else furnishing us with their name and address, and we will get in touch with them.—Donolac Company, Inc., 4920 S. Peoria St., Chicago, Ill.

C. C. Corp. has been advised.—ED.

Luminous Paints

With reference to page 89 of the December 1948 issue, we would appreciate your sending us the names of a few manufacturers of luminous paints.—Nu-Life C. S. Co.

Lists send by letter.—ED.

Liquid Metallic Finish

A customer of ours is interested in a process purported to spray a liquid metallic finish (not bronze powders) on plastic items, pine cones, etc. The resultant finish simulates blown glass, similar to Czech Christmas tree ornaments. As we understand it, the finish is chrome over

SAVE *Time* AND *Labor* WITH PRINTEX VARNISH

Combines the working properties of Lacquer and Varnish

Now you can have, in one product, the important working properties of both a lacquer and a varnish. Printex is the result of long and exacting research at the Reliance laboratories . . . proved in large scale production for more than a year.

Look at these outstanding Printex features. We'll gladly send you additional information without obligation.

- Varnish solids—lacquer speed
- One coat has build-up of two lacquer coats
- Sets out of dust in 15 minutes
- Air dries to rub or pack in 16 hours
- Force dries in 1½ hours at 125°-140° F.
- Can be rubbed as soon as cool.
- Clear, transparent—no blushing or blooming.
- Withstands pressure packing—2 lbs. to square inch.
- Water and alcohol resistant.
- Sprays easily, smoothly and quickly.
- Does not settle in package.
- Supplied in gloss or dull lusters.

For additional information address
4732 Crittendon Dr., Louisville, Ky.

Rely on Reliance

RELIANCE VARNISH CO.
INCORPORATED
Louisville, Ky. • Chicago, Ill. • Brooklyn, N. Y.

which are shot dyes of blue, green, etc. Our customer feels that the process is patented and probably is sold on a royalty basis. He claims to have seen the spray gun which was marked, "Property of Mirro-Mist Corp.". Do you know of this company or of the process?—S. of H., Canada.

Mirr-O-Mist Corp. (Mirrors by spray) is located at 444 Sixth St., San Francisco 3, Calif. The firm's eastern representative is Langlotz & Co., Brooklyn 17, N.Y.—ED.

Finishing Skis

Sometime ago you published an article in INDUSTRIAL FINISHING on the finishing of skis, but we are unable to locate this particular issue. We wonder if you have a tear sheet on this article that you could send to us?—R. Co.

What you probably have in mind appeared in the Questions and Answers of March and April 1947 issues. Tear sheets of the short articles are being sent to you.—ED.

Weather-O-Meter Wanted

Please advise any information you may have in regard to the location of either a new or used Weather-O-Meter that is available for sale.—P. & V. Co.

Only ones we know about are those offered by the manufacturer, Atlas Electric Devices Co., Chicago 10, Ill.—ED.

Small Air-Driven Sander

We would appreciate any information you can furnish on a small reciprocating air sander. We have tried —— and —— sanders, but for the particular type of work we do, they are a little too heavy.

The operator of this machine is required to reach as high as 6-ft. and a heavy machine would be very tiring.

We spot glaze small areas and under our present system the worker has a tendency to finger sand and dig it out.—Casket Co.

Look at some of those advertised in January issue of INDUSTRIAL FINISHING.

Centrifugal Painting Machine

We desire to purchase centrifugal machinery for painting small metal pieces. We have been informed by our business associate, Mr. Baldwin of the J. & L. Finishing Co. of this city, that you may be able to supply us with the information we desire. We will appreciate any information which you can give us.—B. E. Co.

Try Ronci Machine Co., 2 Atlantic Blvd., Centredale 11, R.I.—ED.

Plastics Finishing Consultant

We refer to December 1948 issue of this magazine wherein an article appears under the Questons and Answers column on page 90. Would you kindly send us the address of Mr. John F. Daymude, Ch. E., Surface Finishing Consultant? We would like to ask Mr. Daymude several questions about the finishing of moulded articles.—P. W. Co.

Information supplied.—ED.

Automatic Spray Equipment

Sometime ago we noticed an advertisement in your journal respecting an automatic spray finishing machine for such small articles as lipstick cases, bottle caps, etc. We would be obliged if you could kindly send us the name and address of the manufacturer.—R. C., Ltd., West Bromwich, England.

Write to the spray equipment concerns whose advertisements you see in any issue of INDUSTRIAL FINISHING.—ED.

Stainless Steel Paste

We have read with interest an abstract of an article published by you in reference to a stainless steel paste to be added to spar varnish, lacquer and other paint media. We would like to know the name of the manufacturer of this paste, so that we may obtain a sample for use in tests that we are conducting.—C. S. A.

It's Charles Hardy, Inc., 420 Lexington Ave., New York 17, N. Y.—ED.

What Removes Rinse Water Quickly from Primer

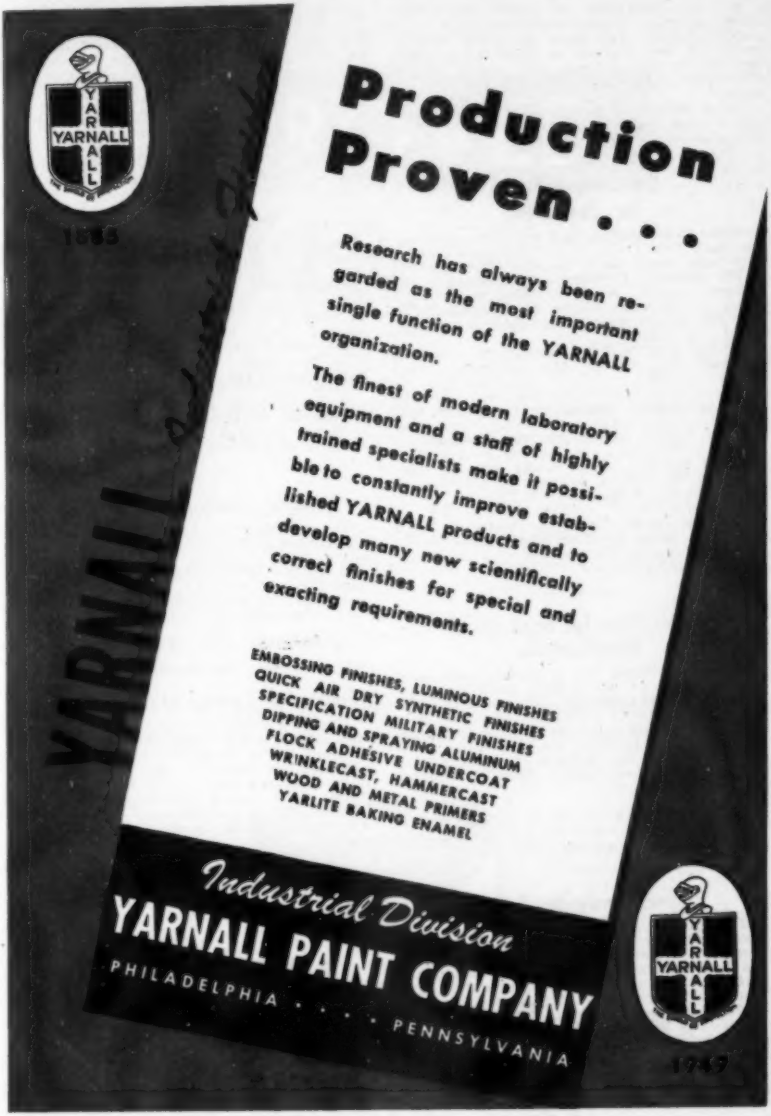
In your January 1949 issue, an article (on page 38) by John Raine entitled, "Removes Rinse Water Quickly From Primer", tells of the water-removing solution used in a tank for articles which are to be primed. We would like to have more information on this solution and thought perhaps you could refer us to the manufacturer.—Metal Fabricators.

The author tells us this is a product of V. J. Dolan & Co.—ED.

Standards for Paints

I have read several articles in INDUSTRIAL FINISHING on setting up a definite set of standards for paints. I am very much interested in doing something along this line and wonder if you could recommend any booklets, pamphlets, etc., that might give some general information on the subject.

(Continued on page 84)


YARNALL
1883
Production Proven . . .
Research has always been regarded as the most important single function of the YARNALL organization.
The finest of modern laboratory equipment and a staff of highly trained specialists make it possible to constantly improve established YARNALL products and to develop many new scientifically correct finishes for special and exacting requirements.
EMBOSSING FINISHES, LUMINOUS FINISHES
QUICK AIR DRY SYNTHETIC FINISHES
SPECIFICATION MILITARY FINISHES
DIPPING AND SPRAYING ALUMINUM
FLOCK ADHESIVE UNDERCOAT
WRINKLECAST, HAMMERCAST
WOOD AND METAL PRIMERS
YARLITE BAKING ENAMEL
Industrial Division
YARNALL PAINT COMPANY
PHILADELPHIA . . . . PENNSYLVANIA
1949

We are interested in paints for metal surfaces only. I can obtain copies of your publication as far back as 1946, and if there are any articles in them that might pertain to the subject, you could advise me which ones to look up.—A. B. Co.

In a letter we are naming a few concerns who might help you in this work.—ED.

Silk Screen Paint for Pennants

Since last writing you we have received the July 1948 issue of INDUSTRIAL FINISHING and read with interest the article, "Silk Screen Printing of Pennants in Colors", by J. W. Nee. The many features of these products, as developed for the silk screen pennant people, is exactly what we want.

Would you be kind enough to ship via express and C.O.D. the following trial order: . . . . .

There is a possibility that our climate may affect the viscosity of your product. Would you suggest sending sufficient thinner along or having us purchase it locally? We will be guided by your advice in the matter. We would greatly appreciate as early a delivery as possible.—G. G. F. Ltd., Vancouver, B. C.

We are forwarding your letter to John W. Nee, who is Technical Director of Napko Paint & Varnish Works at Houston, Texas.—ED.

Metal Filler for Spot Weld Indentations

We are looking for a metal filler that can be used to cover spot weld indentations on metal cabinets. We want to sand this filler smooth after it has set, and then apply one coat of baking synthetic enamel. The product we are now using bubbles up in the baking oven. Can you recommend a satisfactory filler?—C. Metal Units.

Have you tried one made by The Savogran Co? In a letter we are giving you this company's address.—ED.

Spra-Bonderite Setup

Hereby we beg to inform you that to one of our customers we have sent a Danish translation of the article, "Automatic Finishing Set-up for Refrigerator Cabinets", as published in November 1947 issue of INDUSTRIAL FINISHING. In this article is mentioned a "six-stage Spra Bonderite Department with drying oven". Now we have an inquiry from our customer, asking how this is functioning, how elaborate it is to install, and if it can also be used on galvanized plates for pretreatment before finishing with stove (oven) drying enamel. Your reply will greatly oblige us. Wishing you a Happy and Successful New Year, we thank you for the good and interesting articles you have brought to us in 1948.—Glasso, Copenhagen, Denmark.

We are referring copies of your letter to firms in this country who can furnish you detailed information about the performance of this equipment.—ED.

Wood Repair Putty

Will you kindly send us the name and address of the manufacturer who sells a rock hard putty which we can use on oak lumber before it is stained?

The putty we now use has a tendency to turn very dark—almost black—when stained, and we want a quick-drying water-mixed putty which will not darken with the stain . . . and please keep our name out of the magazine.—X.

Some of these repair putties have been advertised in INDUSTRIAL FINISHING. In a letter we are listing names and addresses of a few of them.—ED.

Offer Coatings for Paper

In my copy of INDUSTRIAL FINISHING for January, on page 84, I notice an inquiry for "Coatings for Paper Forms", from a firm in Chicago. I think we have something for them. Will you please send me the name and address of "U. P. Co.", Chicago?—C. A. S.

Information sent.—ED.

Finish for Turned Hardwood Bowls

Kindly advise the name of the organization whose letter signed, "C.W." appears on page 92 of December issue, concerning a finish for wooden bowls and trays. We have done extensive work on this type of finish, and would appreciate having an opportunity to contact your correspondent. —The Bloomfield Chemical Co.

In a letter we are revealing the name and address of the concern. Many of these inquiries come from companies who request that their name and address will not be published.—ED.

R. N. Nason & Co. Opens California Warehouse

R. N. Nason & Co. has opened a new warehouse at 3148 E. 11th St., Los Angeles 23, Calif. It is designed to give faster and more efficient service to West Coast customers. A full line of paints will be stocked, including automotive paints and lacquers. E. F. Pless is manager.

NEW IMPROVED FILLER

In keeping with our policy to "better the best"--we have developed a new, improved filler which we believe has great advantages over the old types.

This new filler will not turn gray in the pores. It is easy to wipe--does not settle like old type fillers--does not bleed and provides excellent adhesion.

It fills pores perfectly in either the over-night or four hour types.

We know you will find it to be eminently satisfactory for large scale--economical production.

The Gilbert Spruance Company

RICHMOND AND TIOGA STREETS

PHILADELPHIA 34, PENNA.

2

speeds production

Cut Three Operations To One: Superior Table Novelties Corp., Brooklyn, N. Y., reduced three costly operations to a single operation by standardizing on Chadeloid non-grain-raising stains. Previously the operations were: (1) stain; (2) shellac; (3) sand. These multiple operations tied up the conveyorized production system. After adopting Chadeloid products, the shellac and sanding operations were eliminated, saving man-hours and materials, and resulting in increased production of products with finer finishes than were previously possible. . . . Superior is another of the hundreds of quality manufacturers who specify CHADELOID non-grain-raising wood stains and stain-fillers.

CHADELOID *Stains*

Bring your woodfinishing problems to CHADELOID: our applied research laboratory and our customer service laboratory operate to assist manufacturers and users of wood stains and stain-fillers . . . on problems of materials, methods and applications. Chadeloid technicians will assist you, to your profit, if you'll write explaining your problems. REMEMBER: Chadeloid non-grain-raising, non-bleeding, color-true wood stains and stain-fillers are marketed under a wide variety of trade names by Chadeloid-authorized manufacturers. To obtain the genuine, insist on non-grain-raising stains manufactured by the companies listed below, under the patented Chadeloid formulae.

patents

These domestic and foreign patents have been granted as a result of many years of applied research in woodfinishing in the Chadeloid laboratories:

United States Patents		
1,877,748	2,093,424	
1,898,247	2,105,984	
1,903,768	2,161,503	
1,977,345	*Canadian Patents*	
2,000,120	330,344	
2,000,121	343,162	
2,044,770	343,163	

CHADELOID CORPORATION | SUITE 1819, BANKERS BLDG. 105 WEST ADAMS STREET **CHICAGO 3, ILL.**

Cleaning Steel for Aluminum Lacquer

Due to lack of oven capacity we are now trying to finish our various steel fixture parts with an aluminum lacquer instead of a baking enamel which we formerly used.

To date we have been unable to find a quick air-drying aluminum color lacquer with good adhesion when applied directly to steel stampings. These stampings are degreased in a vapor degreaser and the lacquer is then applied directly to the smooth base steel. These parts are used for trim and we need a nice looking finish that won't peel off at the slightest scratch. We are sure the metal is perfectly clean; we are not having trouble with baked finishes.

Due to lack of space, we are unable to install an etching bath and hope that some of your readers may be able to suggest a finish or method that will solve our problem.

We have had the local (Florida) representatives of two large paint manufacturers on the job and all they suggest is a clear lacquer mixed with aluminum paste. We have tried this without success.—L. MFG. CO.

I can see no reason why you should not obtain satisfactory adhesion with aluminum pigmented lacquer coatings on steel if you prepare the surfaces satisfactorily. Vapor degreasing alone may or may not give satisfactory surface; much depends upon conditions. However, it should give a surface that is as clean if not cleaner than one obtained by a solvent wash.

Of course, you might use one of the phosphoric acid treatments for preparing the steel surfaces but, unless you install tank equipment for dipping or spraying, this may not be practical on a large scale.

One other suggestion is to *use a wash coat primer just prior to the application of your aluminum pigmented lacquer.* I feel sure that this will give you far better adhesion than you are now obtaining, and it might also improve the general toughness of the film. By using the wash coat primer, you could probably continue with your present method of cleaning.—W.I.R.

Uniform Light Tones in Wood Finishing

Most of our work is finished in oak. We have several problems in finishing and would appreciate all of the information you can give us. We are having difficulty getting oak to bleach down to one shade. We are careful in matching our solid lumber and veneers during assembly, yet after bleaching these same pieces they come out in different shades.

We have had some success in toning them during finishing, but it is not entirely satisfactory. It may be that our finishers are not using the right method of toning, or else it may be that the work is not being bleached properly. We would appreciate any information that will help us in solving this problem. We would also appreciate any information regarding methods of obtaining different finishes

Filler

that wipes off clean and sharp

Stille-Young Spee-D-Dry Filler is the original fast drying filler. It's the perfect base for your lacquer, varnish or shellac finish.

Spee-D-Dry is easy to apply, easy to work. It may be brushed, sprayed or dipped. It wipes off clean and sharp above the wood pores, producing a perfectly filled and clean, smooth surface—without streaks or cloudiness.

Stille-Young has had a wealth of experience helping manufacturers in the selection, application and treatment of fillers. Why not take advantage of this technical know-how the next time you have a problem? Simply write, wire or phone Stille-Young.

The quality line manufactured by Stille-Young

S-Y

STAINS • FILLERS • SEALERS • LACQUERS • ENAMELS • PAINTS

THE STILLE-YOUNG CORPORATION

Chicago 14

of oak, as limed oak, bleached oak, and bleached oak with different tints.

We are primarily interested in obtaining a standarized finish in each different type of oak finish, whether limed, bleached or tinted, because in our business units are made for stock and one should match another, as these units are purchased from stock and in most cases, when assembled, they make up a complete set of fixtures for a store.—S. F. Co.

Color uniformity, in the wood parts that make up a piece of furniture or wall paneling, is highly desirable in finishing furniture and store fixtures. From the customer's standpoint, a unit purchased today should match with other units purchased a year or two ago. From the manufacturer's standpoint, maintaining the same color from one year to the next offers many difficulties.

In the first place, wood is inherently a non-uniform material. In fact, much of its charm arises from this fact. No two pieces of wood are ever precisely alike in grain pattern or color. Then the color of wood itself changes with age, even after the wood is finished.

If you will mask half a small unfinished panel of wood with metal foil and expose it to the light for a few days you will readily see how much change of color occurs in just a short time. Such changes take place even after finishing, although these changes are much more difficult to demonstrate. Finally, the color of finishing materials will change somewhat with age. In the light of these difficulties, one wonders how furniture manufacturers ever maintain reasonably uniform color standards.

There are certain practical aids which can be used to maintain the color uniformity of your store fixtures. As you state, careful selection and matching of lumber and veneers makes a good start. However, it is hardly possible to bleach all of your oak down to precisely one uniform color, that is, on any practical basis. This is due to variations in the amount and nature of the natural coloring in oak. Some of this is influenced by variations in soil and climate where the trees grew. Extremely drastic bleaching will do it, as in bleaching pulpwood, but this is hardly practical for furniture or fixture work.

One, or at most, two applications of the commercial peroxide-alkali 2-solution bleach should give you a reasonably uniform color. The bleached wood will retain its color better if you will sponge off the residue of chemicals with clear water after the bleaching process is completed. The bleach should be left to dry three or four hours; then the surface should be washed with clear water, or water containing about ½-lb. of sodium bisulfite to a gallon. Allow the treated wood surfaces to dry overnight; then proceed with the finishing.

One way to uniform the color of bleached wood is to darken the wood very slightly with non-grain-raising stain or a very light shading stain. In this manner the slight differences in color that appear after bleaching can be eliminated by shading the darker pieces a little less. This is perfectly practical, even with very light limed oak finishes, for only a little color is needed.

A valuable aid in maintaining color uniformity is to keep on hand a set of master color standards which can be distributed to the various operators when they are needed. This will enable the stain operators to hold their correct color better, since in practice the amount of stain applied will vary considerably from one operator to another, or by the same operator from day to day. Keeping a color standard for his ready reference will enable

STOP!

don't shoot yet . . .

The biggest obstacles to good paint, varnish or enamel jobs are the little particles and specks of grit, dust and lint, that accumulate on the surfaces to be finished. They cannot be gotten rid of with a dry cloth or with an air hose. The only way to effectively remove them is with a Tack Rag.

The "Dust-All" Tack Rag chemically treated for the purpose, used for wiping surfaces before finishing, is definite assurance at the cost of only a few pennies, that a satisfactory finish job will result.

Ask us about the "Dust-All" Tack Rag; what it will do; how it will actually save money on finishing operations.

Used on practically any type of product (metal or wood) the "Dust-All" Tack Rag will help eliminate spoilages and assure a finer finish.

The
"DUST-ALL"
TACK RAG
Be sure you get it in the Red Checked Bag

HARDING
Manufacturing Co.
10606 Gratiot Ave., Detroit 13, Mich.

him to check color drift. A little attention to this point may solve your problem.

One cause of lack of color uniformity is the sanding procedure in the cabinet room. In some plants little thought is given to maintaining the same sanding procedure. For example, one cutting of a line of furniture may be finish sanded with No. 6/0 sandpaper, and the next with No. 4/0. The coarser the sandpaper, the darker the color will be after finishing. Coarse sanding scratches increase the wood's absorption of stain and filler.

Two different components of a store fixture may be sanded in different ways, with the result that the same amounts of the same finishing materials may produce different colors. For uniformity, it is advisable to establish and maintain a uniform sanding procedure for each line or color—or better yet, for all production if that is practical, since it simplifies the matter and eliminates mixups.

As a final precaution against color change, be sure to use materials formulated to give the least color change with age. You can test for this by exposing different lacquers, for example, on glass to the sunlight (indoors) for a week or two. By laying the glass down on a white background you can easily detect color development. Your supplier will cooperate with you on this problem.—R. H. WAMPLER.

Special Enamel Wanted

We are coating metal reflectors by the vacuum evaporation method and for this we need an enamel of certain qualities. The metal reflector is first dipped or spray coated with a black enamel which makes the uneven surface smooth. Afterward the enamel is baked and the suitable underlayer for the metal deposit results. The last step is the deposition of the metallic layer in a vacuum apparatus.

We ask you to help us in finding one or more manufacturers of such an enamel, which must stay unchanged under conditions of extremely low pressure and which will not hamper the forming or the quality of the mirror. — PAL-Chemical Department, Jihlava, Czechoslovakia.

Since I have never encountered your particular problem, I can only offer some suggestions that may help you. It seems to me that a high quality baking enamel would be suitable. If thoroughly baked, there would be little danger of the enamel film pitting or blistering under conditions of extremely low pressure.

I would suggest that you try a urea-alkyd or a melamine-alkyd baking enamel. What the effect of such an enamel would be on the formation of the metal deposit, I do not know. Perhaps you can determine this yourself, unless you can contact someone who has worked on your particular problem.—R. H. WAMPLER.

Sealer for Plastics

In the August 1947 issue of INDUSTRIAL FINISHING Magazine there was an article by John F. Daymude, descriptive of a spray sealer for sealing off migrating dyes in plastics. We are interested in an item of this type and would appreciate information as to what this material is, and possibly advise if it can be used on acetate, polystyrene, and other types of thermo-plastics, as well as the thermosetting materials described in the article. —G.P.Co.

The sealer I referred to is "Palladin". The material is to be used at around 11 seconds viscosity on a No.

IT PAYS TO COMPARE

AVERAGE WOOD FINISHING PROCESS **VS.** PROT-O-CEL PROCESS

TRADE MARK

AVERAGE—A finished wood surface will require one application of lacquer sanding sealer plus several top coats of lacquer.

PROT-O-CEL PROCESS One application of SEAL-BASE S-100 plus *one coat* of PROT-O-CEL AR-100 equals any three coats you are using now. With the PROT-O-CEL PROCESS *you get one-third more coverage . . . you save one-third of your wood finishing costs in time, labor, and material*

AVERAGE—A sanding sealer contains approximately 18% solids content and may produce a shallow, hard-to-sand surface. The average lacquer top coat contains about 21% solids and requires at least two applications.

PROT-O-CEL PROCESS The SEAL-BASE S-100 means 28-30% solids content. It touch dries in a few minutes, sands easily, and is ready for the final coat in thirty minutes. Now apply PROT-O-CEL AR-100, the tough cellulosic finish made from natural proteins. Watch PROT-O-CEL level off with its 40% or more solids content—no preheating required. Both SEAL-BASE S-100 and PROT-O-CEL AR-100 can be formulated to fit your particular requirements.

Cold-check tests conducted in our laboratories and by independent chemists show that PROT-O-CEL is able to withstand more than 24 cycles. Write today and ask us to send you, on memorandum invoice, one 5-gallon can each of SEAL-BASE S-100, PROT-O-CEL AR-100, and PROT-O-CEL REDUCER XX-100 at the drum price.

ARNY CHEMICAL CORPORATION PROT-O-CEL PROCESS TRADE MARK

INDUSTRIAL DIVISION

55 WEST 42nd STREET NEW YORK 18, N. Y.

SYNTHETICS • LACQUERS • SEALERS • PRIMERS • ENAMELS

4 Ford cup, and completely baked out for 45 minutes at 265° F., or 30 minutes at 280° F., or 15 minutes at 300° F. Use of the flat black Palladin or the clear Palladin is not practical. All other colors are applicable to this particular sealing operation.

Regarding your question as to whether this material will seal off bleeding in acetate, polystyrene and other types of thermo-plastics, be advised that this material, while fairly fast drying in comparison to a lacquer, is too slow drying to do anything more than leach out dye in the article and accentuate and accelerate the bleeding and discoloration.

What you need for a sealer on this type of plastic is the fastest air-drying type of material, pigmented or otherwise, that will give adhesion to the base plastic, to be followed by whatever color coats are wanted in an air-dry coating.

Here again it is necessary to engineer your solvent so that you will get a "bite" on the base thermo-plastic and extremely quick drying; otherwise bleeding will be accelerated.

Since almost any color or combination of colors can be obtained in the thermo-plastic materials, I can see no reason why you would want to completely paint the article, but I can see why you would want to decorate it. If you are completely painting the article, I would suggest that you have it molded in the colors desired. —JOHN F. DAYMUDE, Ch. E., Surface Finishing Consultant.

Among the major developments of organic chemistry are the synthetic resins which today replace natural resins in the formulation of many paints, varnishes, enamels and lacquers. These resins have helped to bring new standards of durability for both air-drying and baking-type coatings. Most of them dry by polymerization, or/and evaporation.

Lacquering Used Bowling Pins

I am using hot gel lacquer, "Tenite 11" as a protective coating for used bowling pins. These used bowling pins are sometimes splintered, cracked and pitted, even though considerable time is spent in sanding them.

The use of high quality lacquer sealer does not prevent air from escaping from these small splits and checks. This product would probably do a perfect job on new wood, but upon drying it shrinks back from the small cracks and checks.

Can you, from your experience, name a sealer or filler that will positively seal all cracks so that air will be prevented from escaping and causing air bubbles to form in the gel lacquer coating?—S. S.

I know of no sealer that will positively seal all cracks in wood so that air will not form bubbles over them in gel lacquer. Gel lacquer is so thick that air bubbles will not readily come through it and burst, so that the coating may flow back smoothly.

Two solutions to your difficulty suggest themselves. The first is to apply a natural wood filler to the bowling pins before sealing. Such a filler will fill up the cracks flush with the surface, so that the gel lacquer will not tend to bridge over them. Reduce ordinary natural paste wood filler in the proportion of about 12-lbs. of paste to a gallon of VM&P naphtha, or lead-free white gasoline.

Dip the pins in the fillers; set them aside until the surface becomes dull, and then wipe the surface carefully, taking care to avoid wiping the filler out of the cracks. Allow the filler coat to air dry overnight, and then seal and lacquer in the usual manner.

Another solution that might work would be to warm the pins in an oven at about 140° F. for an hour just

STILL POINTING THE WAY to Lower Production Costs

P-B CONVEYORS FOR THE FURNITURE INDUSTRY:

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PALMER-BEE points the way to lower costs, improved quality, savings in floor space, better plant housekeeping, and better all-around efficiency, by advocating the use of mass production methods.

Palmer-Bee pioneered the first finishing room conveyor in the furniture industry about 20 years ago, and our Winston-Salem, N.C. Office is devoted entirely to this class of work.

Our experienced engineers will submit plans and quotations to suit your production and plant conditions, without obligation.

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DETROIT 12, MICHIGAN

before you seal them. Seal at once when they are cool enough. This procedure should expand the air and moisture vapor in the wood. By sealing before the wood is quite cool, the tendency to form blisters over the cracks might be eliminated.—W.R.H.

Random Comment on the Industrial Scene

(Continued from page 8)

way, to paints shortly before the war. With water as the sole thinner, instead of the traditional turpentine and petroleum products, interior coatings have been developed which dry to a low sheen and with little odor.

* * *

Take Safety Home. It is a startling fact that more accidents occur in and around the home than anywhere else. If the same safety rules used at work were applied in spirit and in practice —in the home, then home would be a much safer place.

Safety minded employees are an asset to any job—to any home. Safety is "catching"; whole families can "catch" it from a safe worker family head; fellow workmen, ultimately, follow the lead of a good example.

* * *

Treated Work Gloves. There is available terry cloth (like a bath towel) gloves for handling hot objects. They are treated to make them resistant to water and to abrasion.

These gloves should be ideal for handling products coming from a dry-off or baking oven, and especially useful for unloading items from an automatic spray-bake unit where the space is necessarily short between the oven and the unloading station.

Wyandotte Chemicals Corp. Promotes Frank Peterson

Frank E. Peterson has recently been promoted to manager of the Milwaukee Office of Wyandotte Chemicals Corp., Wyandotte, Mich. Mr. Peterson joined the

F. E. Peterson
Now Manages
Milwaukee office
of Wyandotte C.C.

Wyandotte organization in 1937, and has been continuously attached to the Milwaukee territory. He was made assistant Milwaukee manager last year.

Mr. Rohrbacher, who preceded Mr. Peterson as manager, and who is now on leave of absence, is widely known in Wisconsin. Fred R. Hayden has taken over the territory formerly covered by Mr. Peterson.

Yarnall Paint Co. Holds Annual Sales Convention

With its entire Eastern Sales Force attending, the Yarnall Paint Company held its annual sales convention at the Adelphia Hotel, Philadelphia, Pa., Thursday and Friday, January 6 and 7.

Meetings were presided over by B. F. Swackhamer, Vice-President. Speakers included Mr. Swackhamer, William MacKnight, President, F. M. McNerney, Technical Director, John Flood, Plant Superintendent, Horace Bentley, Sales Service Technician, E. H. Thompson and S. C. MacKnight, Industrial Sales Representatives.

The meetings were devoted to a review of products in the line, new products, the general sales and advertising program for 1949, and an announcement of the new Yarnall contest.

Part of the convention was held at the General Offices of the Company, where the men were conducted through the plant in groups and personal conferences were held by salesmen with the executives in charge of different departments.

The convention closed with a banquet at which prizes and service awards were made to Geo. E. Parker, Charles Fulwider, Walter Warriner and Walter Schwabe.

CUT SPRAY PAINTING COSTS

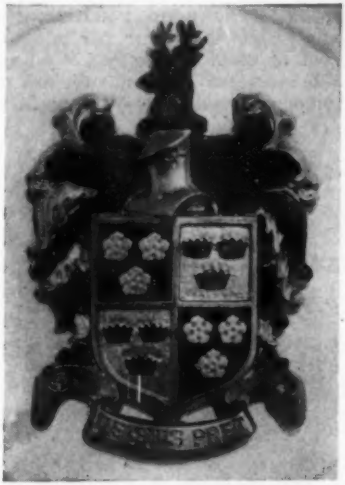
AND SPEED UP PRODUCTION

by using

ELECTRO-FORMED METAL MASKS

One color after another can be wet painted, before baking, on many concave, convex or irregularly shaped three-dimensional metal or plastic parts.

Clean, sharply defined letters and decorative effects are obtained on intricately designed emblems, nameplates, automobile and radio dials, hub caps, horn buttons, household appliance utility markings, etc.



A thin, yet strong, lip of metal, which fits accurately into the edge of the debossed areas, eliminates fogging at the edge of the paint line and avoids after-wiping or buffing off of overspray.

The "loose" inside of letters and numerals, such as "O" and "6", are held in position by arched bridging to effect perfect characters without the use of the objectionable "ties" necessary with common stencils.

Can be fitted to fixtures on production lines. Used on hundreds of nationally known products.

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331 Toledo Factories Building **TOLEDO 2, OHIO**

I am interested in your metal masking shields. Please send without obligation:

☐ Further information. ☐ Sample masks.

☐ Quotation on masks for parts (or prints) which I am forwarding.

Name.....

Firm.....

Street.....

City..... **State**.....

Quilted Plastic Material for Upholstery & Wall Covering

Development of a stitchless, quilted, plastic material makes possible a wide variety of new decorative applications in the fields of upholstery and wall covering.

The new Sealtuft material, produced by Jason Corp., Hoboken, N.J., is made by the electronic heat sealing of a "sandwich" consisting of vinylite plastic sheeting for the front surface, a layer of fire-resistant filler material, and a backing of vinylite plastic film.

The face of the vinylite sheeting is either plain or embossed in patterns resembling leather, sharkskin, moire or taffeta. This stitchless quilted plastic is made in the various patterns as all three materials are fed into the sealing equipment, and the finished material appears heavily padded. The process assures a uniform pattern, and gives the material added strength.

The material is available in a wide range of colors. It is resistant to scuffing, abrasion, alcohol, grease and dirt. It is easily cleaned with soap and a damp cloth. The plastic quilting can be tacked, sewed, cut and sealed in a similar manner to other vinylite plastic material.

Flock Agitator Aids Flocking Operation

Binks electrically driven flock agitator No. FG 12 provides an even flow of flock to the spray gun. The problem of handling the fine fibrous material, of keeping it dry and in suspension for delivery to the nozzle of the spray gun are solved by this new flocking unit. The unit is easy to fill, even when in operation.

The Binks Model 172 flock gun, used with this new unit, is light weight and requires minimum air pressure and volume. For example, when used with Model FG 12 unit and a 25-ft. length of material hose, only 4½-cu. ft. of air per minute is used at 30-lbs. pressure. With each 5-lb. increase in air pressure the volume-increase is only ½-cu. ft. per

A compact unit useful in many places.

You can produce on any material the following surface finishes:

FELT - SUEDE LEATHER - MOHAIR VELOUR - VELVET - CARPET

FUNCTIONAL USES

Used in the auto, airplane, radio, electrical, phonograph, ceramics, furniture and many other industries for surfacing all sorts of materials to provide

TEMPERATURE INSULATION • SOUND DEADENING • INTEGRAL GASKETS • SHOCK ABSORBING SURFACE • NON-MAR SURFACE • NON-GLARE SURFACE

DECORATIVE USES

Applied in various lengths and colors to wood, paper, cloth, metal, etc., the following effects are produced—

FURNITURE UPHOLSTERY • SUEDE LEATHER • INTERIOR AND DRAPERY FABRICS • VELVET • VELOUR • MOHAIR • CARPET

with these patented and trademarked Rayco specialties:

FELT AND SUEDE SURFACE

*"Raymix"—a flock of rayon fibres, trademarked under U. S. Patent No. 427949 to produce a suede effect of utmost realism on any surface.

*"Kingcote"—a cotton flock trademarked under U. S. Patent No. 423572, producing a suede effect at minimum cost.

MOHAIR, VELOUR AND VELVET SURFACE

"Raycote"—a flock composed of uniformly cut rayon fibres to produce on any surface a pile effect such as velvet, plush, or velour. Made under U. S. Patent No. 2014947.

SYNTHETIC CARPET

"Harecote"—a flock composed of animal fibres, produces a durable carpet or rug material.

Request Free Color Card of Actual Samples

**Rayon Processing Co. of R. I., Inc.*

Registered Trademark

PIONEER PRODUCERS OF SURFACE COATING FLOCKS

55 Moshassuck Street **Pawtucket, R. I.**

POLLAK PAINT CO.	LAMBERT-NEW ENGLAND CO.	H. R. MEININGER CO.	J. GORDON SMITH CO.
715 Main St. Buffalo, N. Y.	79 Sudbury St. Boston, Mass.	409 16th St. Denver, Colorado	3901 Main St. Dallas, Texas

minute, so at 50-lbs. the consumption is only 6½-cu. ft. per minute.

Flock finishing, which finds its broadest use in decorative and novelty applications, is also being used for finishing the interiors of trunk and glove compartments of automobiles. Flock is widely used for simulating a variety of materials such as velvet, suede, felt and fur on practically any material. In addition, it is finding wide application in the decoration of fabrics through the medium of the silk screen process.

The flock agitator is available as a unit, or as a part of a complete flock outfit. A product of Binks Mfg. Co., 3114 Carroll Ave., Chicago 12, Ill.

Strips Nickel Plating From Steel

Enthone, Inc., 442 Elm St., Dept. IF, New Haven, Conn., announces the development of "Enthone Metal Stripper" for chemically dissolving nickel and other metal coatings from steel without attacking the steel. The stripper is alkaline in nature, can be kept in a steel tank and requires no electric current. The parts to be stripped are merely immersed in a solution of Enthone Metal Stripper salts, in the temperature range from 160° to 180° F. Stripping speed varies from .0002-in. to over .001-in. per hour, depending upon the concentration of salts and the operating temperature.

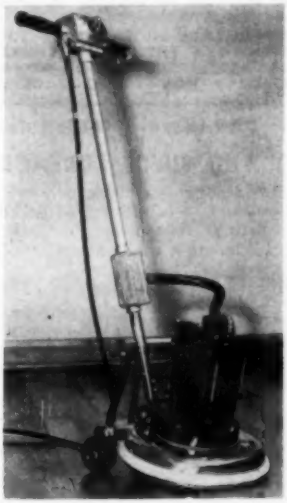
The process removes nickel plate from bulk work, such as barrel nickel-plated steel, which heretofore has been impossible or difficult to strip without attacking the base metal. The Enthone process does not etch or attack the base steel in any way. The steel is left in the same condition as it was before plating.

The stripper is also effective for removing copper plate from steel as well as silver, cadmium and zinc. The solution is not suitable for removing nickel coatings from zinc base die castings or copper alloys.

Enthone Metal Stripper comes under U. S. Patent No. 2460896 and further patents are pending.

Floor Cleaning Machine

An explosion-proof machine for scrubbing, cleaning and polishing floors in hazardous areas has been



Safe to use in hazardous areas.

perfected and put into volume production by Multi-Clean Products, Inc., 2277 Ford Parkway, St. Paul 1, Minn.

The new machine, the MC-EX, was designed specifically for floor maintenance in petroleum refineries, chemical and munitions plants, distilleries and factories where a spark might set off an explosion of fumes

At the start,
consider the finish.

PRATT & LAMBERT-INC.
Industrial Finishes
1849 – Centennial Year – 1949
NEW YORK BUFFALO CHICAGO
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or dust. It has passed rigid laboratory tests.

All equipment and components used in the manufacture of this floor cleaning machine have been listed by Underwriters Laboratories for use in hazardous areas. The General Electric motor, flexible coupling and totally enclosed safety switch are features of the new Multi-Clean explosion-proof floor cleaning machine.

Previously all hazardous areas were cleaned by manual labor. With this safety floor scrubber, industry can clean its floors rapidly and economically, and thereby secure added protection against fire, explosion and slip hazards.

Safety was the principal consideration in designing the new machine, but this feature was achieved without sacrificing important utility features.

The adjustable handle and the center balance combine to assure easy operation. Flip-up wheels require no lubrication. Bronze castings are used at all points of strain.

Floor Resurfacer Resists Acids, Alkalis & Fats

Resin-X is the name of a new floor resurfacer announced by the Rock-Tred Corp., 627 W. Washington Blvd., Chicago 6, Ill. It can be easily brushed or trowled over any type of floor—concrete, wood, tile, metal, composition, etc., to a thickness of 1/32 to 1/16-in., providing a wear-resisting surface that will put an end to chemical and solvent attack. It is non-slip and an electrical insulator; is effective as a safety stair-tread.

In general, Resin-X is said to have excellent resistance to solvents and chemical corrosives, alcohols, glycols, petroleum solvents, oils, fats, waxes, most acids, alkalis, water, soap solutions, detergents and salt solutions. They have no effect upon it.

Portable Compressor For Light Work

The DeVilbiss Co., Toledo 1, Ohio, announces a new portable air compressor designed especially for the small shop, or as an auxiliary unit for finishers. It weighs 32-lbs. and can be operated from the normal socket or wall plug.

Complete; powerful; easy to carry.

This new NCD compressor holds a capacity spray gun at 35-lbs. pressure and actually delivers 2½-cu. ft. of air per minute. In addition, the NCD delivers plenty of air for light blow-off jobs.

The NCD is available as a separate air compressor, or combined with several different spray painting outfits.

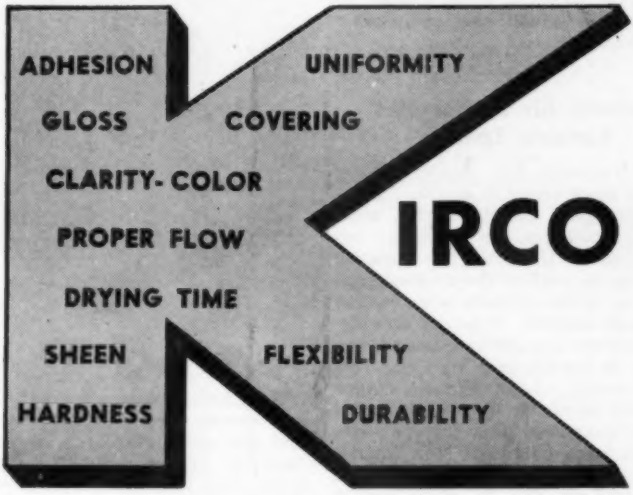
Portable Infra Red Baking Unit

The Miskella Infra Red Co., East 73rd & Grand Ave., Cleveland 4, Ohio, announces Porta-Flexers, a line of portable infra-red units with reflective face plates 10-in. wide by 14-in. high, with four lamps, to 20-in. wide by 24-in. high with 16 lamps. Hinged models are available in 10-in. wide by

KIRCO *Lacquer and Enamel*

ROLLER COATINGS

are outstanding for . . .



What's Your ROLLER COATING *Problem?*

KIRCO Laboratories have specialized in the development of Roller Coatings. They have been proven in production use by leading manufacturers. Submit your roller coating problems to us for prompt service and trouble free performance.

KIRCO Modern Coatings are delivering trouble-free performance to prominent manufacturers of metal, wood, plastic and glass products.

KIRCO MODERN COATINGS

Kirker CHEMICAL COMPANY

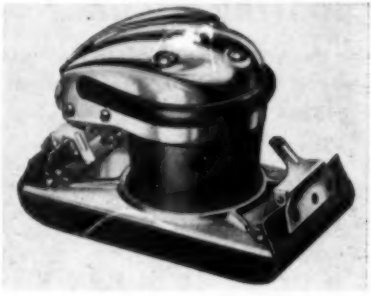
ONE EAST ELEVENTH STREET • PATERSON 4, NEW JERSEY

26-in. high with six lamps, or 20-in. wide by 26-in. high with 12 lamps. All units are mounted on self-sustaining hinged stands which permit their use in most any position. Hand wheels control position of the lamps in the reflective face.

These units can be used in the laboratory, for extra baking jobs, for preheating, and for touch-up and repair work. Several units bolted together will make an adjustable infra-red oven.

Portable Air Sander Has Variable Speeds

The National Air Sander Model 400 is a most versatile air sander because its speed can be varied from 4000 to 6000-rpm. to meet the requirements of the job. The required paper can be used at the proper speed according to the surface to be sanded and finish desired. Pads are specifically designed for various operations, and can be readily interchanged. This sander weighs 4-lbs. and is shaped to fit the hand. It may be operated in close quarters; it is fast and efficient on large surfaces. For further details write National Air Sander, Inc., Rockford, Ill.



Sander is portable and has adjustments.

New Vapor Degreaser

Circo Products Co., Cleveland, Ohio, announces a new line of automatic, push-button controlled vapor degreasers on which all surfaces exposed to solvent vapors are protected by stainless steel.

Has convenience and safety features.

Additional features include a built-in reservoir for liquid solvent flushing and for automatically restoring solvent to proper operating level in tank. The push-button controls have indicating lights which, with a temperature gauge, constantly show operating conditions of the degreaser.

Breaker Separates Small Coated Parts

The Leon J. Barrett Co., Worcester, Mass., announces a new centrifugal breaker furnished with fractional horsepower motor and variable-speed drive designed to separate small parts which tend to stick together after having been coated by dipping or tumbling. The unit is equipped with a removable basket mounted on casters to facilitate handling.

☞ *Salesmen looking for a change for the better, see page 134*

Ablon

INSTEAD OF ASPIRIN, TRY THIS . . .

Nobody—but nobody loves a headache. Except maybe the remedy manufacturers who rub their hands with glee whenever the newspaper headlines scream the day's troubles.

And next to a United Nations' meeting, a finishing department is where headaches and bottlenecks bloom best.

Our business is to keep headaches from happening to our friends. And all our customers are our friends.

To accommodate more happy customers with short-bake *Ablonite Synthetics* which are developed for optimum performance, we are expanding our technical staff, adding the very latest equipment to our new and modern plant. You, too, are invited . . .

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Abrazing Solutions
Aniline Dye Stains, Ex. Ex. Concentrate, Dry Powder
Assimilating and Amalgamating Solutions
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Enamels, Hour-Dry
Eradicative Solutions
Filling Compound
Finishine Superfine Japan Colors
Finishing and Refinishing Repair Kits
French Polishing Solutions
Lacquers
Liquid Stains, All Types, Concentrated
Lubricating Solutions and Compound
Lubrisol Pad-O-Paque Process
Patching Solutions
Porcelain Repair Products
Pure Linseed Oil Paste Colors
Refinishing Solutions
Safety Equipment
Satinizing Solutions
Sealing Solutions
Shellacs
Spray Finishing Equipment
Solvenizing and Reducing Solutions
Toning Solutions
Varnishes
Varnish Removers
Waxes and Applicators

(Continued on next page)

627 Tallman St. Syracuse 4, N.Y.

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(Continued from Preceding Page)

Finishine Household and Maintenance Specialties

Miscellaneous Household and Maintenance Supplies

Industrial and Household Paints and Maintenance Products

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"Better Brushes Insure Better Work"
All Types

Industrial Safety Equipment

"Cabinet Supplies for the Careful Craftsman"
Abrasives, Adhesives, Wood Fillers

We have the "Edge" on Fine Tools
Burning-In, Cabinet Makers' and Carpenters', Carpet and Linoleum Laying, Carving, Ceramic, Decalcomania, Deluxe "Electro-Knife", Framing, Glazing, Graining, Grinding, Machinists', Modeling, Painters, Portable Electric, Sanding, Soldering, Ripping, Turning, Upholsters'.

"Hardware that Stands Hardwear"
Antique Reproduction, Baby Crib, Bed, Cabinet, Card Table, Casters and Glides (All Types), Cedar Chest, Chair, Chest, Clock, Cupboard, Desk, Door, Drapery, Drawer, Folding Screen, Furniture, Furniture Trim, High Chair, Locker, Mirror, Piano, Picture, Play Pen, Play Table, Refrigerator, Sewing Machine, Shelf, Store Fixture, Table, Upholstery, Wardrobe.

"Select" Upholstery, Drapery and Carpet Supplies

Handling Equipment—All Types

This is Only a Partial List

In addition to the famous Finishine line of quality finishing materials and supplies, you will find practically all of the best-known tool, hardware and equipment manufacturers in the country represented in this new catalog. Large inventory insures prompt service.

Order Your Copy of the Finishine Catalog TODAY!

FINISHINE LABORATORIES, Inc.

627 Tallman St. Syracuse 4, N.Y.

Dry Chemical Fire Extinguisher

A new dry chemical type fire extinguisher is announced by American-LaFrance-Foamite, Elmira, N. Y.

It has a long range and duration of discharge of the dry chemical, and is light in weight.

The dry chemical is nontoxic, a nonconductor of electricity, and it will not freeze. It carries the Underwriters' Laboratory label and is recommended for putting out inflammable liquid and electrical fires.

Portable Vertical Spindle Polisher

A 10-in. vertical type portable electric polisher has been added to the line of "Metalmaster" Portable Electric Tools manufactured by The Bradford Machine Tool Co., 657 Evans St., Cincinnati, Ohio.

Model 109 polisher is designed to make power polishing a fast, effortless operation, producing a hard, brilliant luster finish on all types of smooth surfaces. Its vertical spindle

Free speed, 1000-rpm.; load speed, 700-rpm.

SAFEGUARD YOUR SPRAY BOOTHS

Layers of inflammable paint come off more quickly if you have applied Wyandotte Spray Booth Coating first. Only a thin coating makes cleaning easier, speedier, more economical.

And you can reduce your floor-cleaning costs with Wyandotte F-100*. Even heavy soil stands no chance against this remarkable compound.

For more information about these Wyandotte Products, write the Wyandotte Chemicals Corporation, Wyandotte, Michigan.

*Registered trade-mark

GLOBE BRANDS

BRONZE POWDERS . . .
all shades and grades
for various purposes

•

ALUMINUM POWDERS AND PASTES

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GOLD, SILVER, COMPOSITION
AND ALUMINUM LEAF

B. F. DRAKENFELD & CO., INC.
45-47 Park Place New York 7, N. Y.

Your partner in Solving Bronze Powder Problems

Drakenfeld

construction enables the operator to reach into difficult places encountered in auto body polishing. The tool is also excellent for polishing all types of furniture and woodwork.

A strong, lightweight aluminum housing completely encloses the tool. The rear grip has an instantaneous trigger switch with positive lock for continuous operation. The side handle is detachable, and can be attached to either right or left-hand sides to suit the operator. A spindle lock is provided for quick pad change.

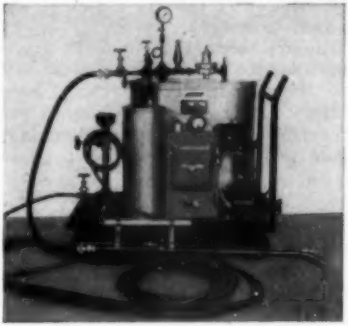
Mineral Pigments Corp. Has New Chicago Sales Office

Mineral Pigments Corp., of Muirkirk, Md., announces the opening of a mid-west district sales office at 629 W. Washington Blvd., Chicago 6, Ill., with Mr. James H. Devine as District Sales Manager.

SOLVENTS RECOVERED BY
THE LOFGREN PROCESS
We RECOVER YOUR
SOLVENTS & THINNERS
From - Sludge - Waste - Wash - Spoiled Lacquers, etc.
Each customer's shipment, whether one drum or a carload, receives PROPER AND SEPARATE TREATMENT. Write to:
SOLVENTS RECOVERY SERVICE, INC., 1019 Broad St., Newark, N. J.
or—HAMMOND
SOLVENTS RECOVERY SERVICE
241 Brunswick St., Hammond, Ind.

Portable Jet Cleaner

The Speedylectric Steam Jet Cleaner is a new product of Livingstone Engineering Co., Dept. 45, 100 Grove St., Worcester 5, Mass.



For pressure cleaning large surfaces.

It is a portable unit which operates free of open flame, fumes and gases. When not in use for steam cleaning it may be wheeled into the laboratory, or pinch hit on the production line as a source of high pressure process steam.

The Flood Co. Moves

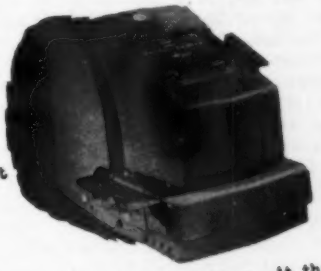
The new address of The Flood Co., manufacturers of Penetrol, is Hudson, Ohio. The company moved from the Carnegie avenue plant in Cleveland to new and larger quarters to produce Penetrol, a reinforcing reducer for paint.

THE LAMY CO.
INDUSTRIAL OVENS
760 PROSPECT AVENUE • CLEVELAND, OHIO
CONSULT US REGARDING: HEAT TREATING OVENS • CORE OVENS
PAINT OVENS • RUBBER CURING OVENS • AIR HEATERS, ETC.

THE TODD COMPANY, INC.

ROCHESTER 3 NEW YORK

Nov. 4, 1948



Mr. Carl J. Schumann, President
Hilo Varnish Corporation
42-60 Stewart Avenue
Brooklyn 6, New York

Dear Sir:

We started using Hilo Wrinkle Enamel about ten years ago. At that time it was used only on two of our larger electric machines -- an adding and listing checkwriter and a check signer.

Hilo proved so satisfactory in this comparatively limited application that we now use it exclusively on all our current models -- large and small.

We like its easy application, its attractiveness, its durability -- and its economy. Our customers approve it because of its resistance to chipping and wear at points of contact, and the fact that the "wrinkles" don't smooth out.

We have found, too, that Hilo is practically impervious to climatic conditions. Since Todd Protectographs and other machine products are used all over the world, from Alaska to the tropics, this quality of Hilo Wrinkle Enamel is very important.

Sincerely

THE TODD COMPANY, INC.

R. H. Barr

Supt. Machine Mfg. Division

R.H.Barr

HILO

HILO VARNISH CORPORATION

42-60 Stewart Avenue, Brooklyn 6, N. Y.

2420 Washburne Ave., Chicago 8, Ill. • Park Sq. Bldg. Boston 16, Mass.

Finish Unharmed by Lighted Cigarette

A Plastic-ized Finish that is not harmed by a burning cigarette has been developed in the laboratories of V. J. Dolan & Co., 1830 N. Laramie Ave., Chicago 39, Ill., for a furniture manufacturer whose products were exhibited at the mid-winter Furniture Show in Chicago. This new finish, especially designed for table and desk tops of wood, is comparable to sheet plastic in its effective resistance to lighted cigarettes, spilled liquors, cosmetics or mild solutions of acid or alkali.

This highly resistant transparent finish includes a complete wood finishing system—stain, filler, sealer and top coats. It is a heat-cured finish. The manufacturer declares that it is entirely new and radically different from anything previously offered.

Primer for Rusted Surfaces

Niel-Coat P-110 is a rust preventative coating and primer that contains a percentage of phosphoric acid. This primer can be applied over rusted metal to stop the rusting as well as to prevent further corrosive action. It adheres firmly to the rusted surface and provides a suitable base for any other paint that may be desired as a top coat. For further facts, write Nielco Laboratories, Detroit 19, Mich.

Abrasive Paint Makes Non-Slip Floors Safe

Sure-Foot is a new type of non-slip abrasive paint formulated by the Frost Paint & Oil Corp., Minneapolis 13, Minn., for application on industrial or public floors and surfaces where slippery conditions prevail. In addition to accident prevention, this

I. C. D. FORMULA NINE

NON-INFLAMMABLE « *wax free* REMOVER »

for paint, varnish, lacquer, baked enamel, adhesives

EASY TO APPLY—NO AFTER CLEANING

I. C. D. FORMULA 9 is the standard of safety and quality . . can be sprayed or brushed . . doesn't raise grain nor discolor . . quickly removes all kinds of finishes and coatings from any surface or material . . costs less to use . . saves time, labor and material.

BRUSH CLEANER I. C. D.—Non-inflammable brush cleaner works fast . . does not injure nor loosen the bristles. Easy to use . . leaves the bristles clean as a whistle. Order a gallon can and convince yourself.

ORDER TRIAL GALLON AT DRUM PRICE

INDUSTRIAL CHEMICAL DEVELOPMENT CORP.

347 MADISON AVE. NEW YORK 17, N. Y.

Plaster Casts become Thorobred Statuary when Surfaced with *Flock*

"A Horse of a Different Color"

Cast in colorless plaster from a celebrated master's original sculpture, this 10" size was transformed, thru sprayed-on flock, into a golden haired palomino . . . and as such, is much in demand as a den, game or trophy room treasure!

Claremont Flock (cotton, rayon, wool) is uniform; responds perfectly to adhesive preparation and forms a deep-pile foundation that won't fuzz, separate, crack or rub-off! Easily applied to glass, wood, metal, paper—or any rigid surface. Available in 18 brilliant colors. Possesses many functional advantages for industrial use—serves decoratively to dress-up your product with eye-catching . . . and purse-opening sales appeal. Complete details available. Write Claremont today!

CLAREMONT WASTE MFG. CO.

CLAREMONT, NEW HAMPSHIRE

material increases efficiency of men working around machines, and protects surfaces against the wear and tear of heavy traffic.

The abrasive properties of Sure-Foot are provided by carbide crystals to assure long hard service and a non-slip surface. It can be touched up where heavy traffic wears through the film. It is easily applied by brush or trowel; dries overnight to a tough traffic resistant covering which remains non-slip, whether wet or dry.

Heat Resistant Lacquer Suitable for Glass

The development of a lacquer designed for spraying light bulbs is announced by the Research Division of Metric Lacquer Mfg. Co., Inc., 62 Woolsey St., Irvington, N. J. Lacquer "Q", as it is called, is suitable for application on candelabras and decorative Christmas bulbs. It adheres to the glass surface, resists chipping, peeling and burning, and lasts for the lifetime of the bulbs.

Lacquer "Q" is available in white, red, orange, yellow, green and blue flat, semi-gloss and high gloss.

Junior Humidifier for Medium Sized Areas

The Abbeon Supply Co., 58-10 41st Drive, New York, N. Y., distributors for the Walton Laboratories, Inc., introduces the new Junior Walton humidifier.

This humidifier is designed to take care of medium sized areas. Other units in the Walton line include humidifiers for spaces up to 2500-cu. ft. and large units up to 15,000-cu. ft. This new unit is designed to service the medium sized areas too large for

Your Signal! **9-8-7-0**

CLEAR METAL LACQUER

For

silver, cadmium, zinc, copper, brass, aluminum.

OUTSTANDING

1. Adhesion to metal surfaces
2. Resistance to sulfur tarnish
3. Resistance to oxidation
4. Resistance to perspiration
5. Resistance to abrasion

Pale in color. Takes 100-200% reduction. Dries under 15 minutes.
A premium product — priced at ordinary lacquer levels.

THE VARNISH PRODUCTS COMPANY
5206 HARVARD AVENUE
CLEVELAND, OHIO

the small humidifier except in multiple, and too costly for the large unit.

The Junior Walton requires no steam, no pumps, no compressors and no return lines. It is noiseless in operation. The vapor is emitted looking like a fog, finer than cigarette smoke.

The Junior Humidifier is 13½-in. diameter, 10½-in. high and weighs 42-lbs. It has a vaporizing capacity of about one-half gallon of water per hour. A control can be supplied that will automatically turn the unit on or off at any desired relative humidity.

Sanding Polishing Tool

The Duo Portable Electric Sander-Polisher, manufactured by Clarke Sanding Machine Co., Muskegon, Mich., is now offered with 21 accessories that quickly change it to a grinder, a drill, a steel wooler, a buffer or a wire brusher. This versatile tool is still

It's really six tools in one.

LARGE
OR
SMALL
Young & Bertke
OFFERS YOU THE BEST IN OVEN DESIGN

To the left is a large conveyor type oven for baking finish on steel chairs.

To the right is a small multi-purpose oven for a variety of finish baking needs.

Young & Bertke engineers are prepared to build you ovens of any size, any capacity, to best fit the individual needs of your plant layout and product. Years of experience in successfully solving all kinds of finishing problems are your best guarantee that a Young & Bertke Oven will give you low-cost, efficient service.

Write us today about your finishing needs.

The YOUNG & BERTKE Co
OVENS - BAKE BOOTHS - FUME REMOVAL SYSTEMS
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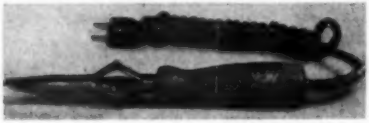
IT'S NEW



THORNTON'S Heavy Duty ELECTRIC BURNING KNIFE

A rugged, long-life knife with self-rest, heavy bronze ventilated blade. 6-foot Underwriter's cord. Knife point heating element furnishes constant even working temperature.

ORDER ONE
EACH.....$5.95

Try AMALGASOL

Repairs and rebuilds damaged finishes. Applied with pad. Used with stain where needed. It matches and completely refinishes rubbed through places in the finish.

Ready for Use.

GALLONS.....$8.25 QUARTS.....$2.75

L. M. Thornton Mfg. Co.

The wood finish authorities since 1914

2513—25 EAST 18TH STREET
KANSAS CITY 1, MISSOURI

offered as a portable sander-polisher only, or it may be obtained complete with all of its 21 accessories. Actually six tools in one, it has many uses.

Wide Masking Paper

An improved protective paper that will not stain nor leave deposits of adhesive when stripped from the surface which it protects, is now being produced by Technical Tape Corp., Morris Heights, New York 53, N. Y. This protective sheet is an addition to the company's regular line of Tuch masking tape.

Tuch Protective Paper is made from a specially prepared crinkleback paper which provides for flexibility and resistance to abrasion. Its adhesive coating is clear and very low in tack. There is just enough adhesion to cling to a smooth, flat or curved surface, and yet allow for easy removal.

Made in 40-in. widths, 100 yards long, this protective sheet has many uses, the principal one being protection of finished surfaces from costly damage during fabrication and in shipment.

New Insulating Materials Withstand High Heat

Two new thermal barrier materials capable of withstanding temperatures as high as 2800° F. have been added to its line of "Stabond" cements, adhesives and allied compounds by American Latex Products Corp., 921 Venice Blvd., Los Angeles 15, Calif.

The new sealing compounds, known as Stabond FR 8 and FR 10, are available in various consistencies for application by trowel or extrusion gun and will find an application in industry wherever a problem of heat resistance or protection exists.

Strip-Eez Silver for Coating Spray Booths

Strip-Eez Silver, announced by Strathmore Products, Inc., 1970 W. Fayette St., Syracuse, N. Y., forms a tough, protective, elastic film which is easy to apply, and which peels off in large sheets when the operator wishes to clean the spray booth of accumulated overspray. This non-inflammable peel-off coating provides excellent light reflection, which improves visibility inside the spray booth.

Strip-Eez Silver may be applied by spray or brush. It dries quickly.

To clean the coated spray booth, simply cut through the Strip-Eez Silver film on one corner with a sharp instrument and peel back slowly and firmly. The film will come away from the surface in one sheet, leaving the surface clean and ready for another application.

Drum & Tank Lining

Cycloflex PC-11 Plastic Lining is announced by The Poly-Cyclo Products Co., Cleveland, Ohio. This lining, developed for the protection of drums and tanks, provides high resistance to corrosion and chemical attack.

Drums and tanks lined with Cycloflex white have a smooth high-gloss finish that makes them easy to drain and easy to clean. The material is also available in high-gloss black. Both linings withstand temperature changes and will not break, crack, chip or peel, even at high temperatures. They have high bond strength, density and seamless construction which eliminates the possibility of porosity and spot corrosion.

Cycloflex is available through Munray Products, Inc., Cleveland, Ohio, sales division of The Poly-Cyclo Products Co.

RONCI SPEEDIP WHIRL ENAMELER

Made in Two Sizes, R-100 and R-200 Capacity 312-cu.in. and 1206-cu.in.

IDEAL FOR LACQUERING AND ENAMELING SMALL PARTS UP TO 7-IN. IN LENGTH

CUTS COSTS, SAVES UP TO 80% OF MATERIAL

Carries up to 75-lbs. per load, and up to 30 loads per hour can be coated with lacquer or enamel in these machines.

All operations are within the machine. Dipping tank is raised, submerging the parts in the basket, and then lowered and the parts whirled, throwing off excess material. No additional outside tanks required; no cleaning necessary when changing colors; no loss of material.

PROMPT DELIVERIES

Write for further information and submit samples to be coated.

RONCI MACHINE COMPANY

A Division of F. Ronci Co., Inc.

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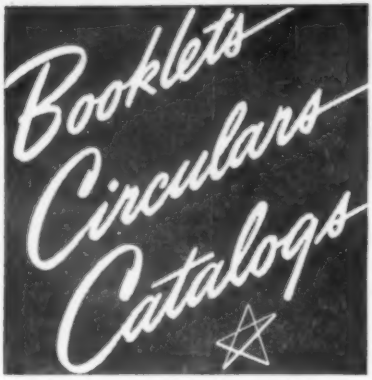


Book of Liquid Silicones by Dow Corning

A new book of 32 pages 8½x11-in. contains information, charts and illustrations—all dealing with liquid methyl silicones manufactured by Dow Corning Corp., Midland, Mich. One of the many uses of liquid silicones is in the making of water-repellant coatings.

Catalog of Safety Posters

The 1949 Directory of Occupational Safety Posters, prepared by the National Safety Council is a 72-page directory containing 744 illustrations of two, three and four color posters, classified under 15 sections. A convenient index helps to quickly locate posters on specific accident hazards. Posters range in size from 8½x11¼-in. to 10x12-ft. National Safety Council, 20 North Wacker Drive, Chicago 6, Ill. Price 50 cents.

Report Analyzes Employee Suggestion Plans

Executives responsible for the administration of employee suggestion plans are unanimously agreed that a continuous publicity campaign is a necessity for a successful suggestion program.

This agreement on publicity is one of the facts about suggestion plans uncovered by the Metropolitan Life Insurance Co.'s Policyholders Service Bureau during the preparation of the report, "Suggestion Plans for Employees", which has just been released.

The suggestion plans of 45 companies engaged in both manufacturing and non-manufacturing operations were analyzed during the preparation of this study.

While the report was prepared primarily for Metropolitan Group policyholder companies, a limited extra supply is available. Executives may get copies by writing on their business stationery to the Policyholders Service Bureau, Metropolitan Life Insurance Co., 1 Madison Avenue, New York 10, N. Y.

Folder On New Drum Finishing Department

Eclipse Air Brush Co., 308 Park Ave., Newark 7, N. J., is offering a new 4-page folder featuring the Eclipse line of manual and automatic drum finishing units.

The Eclipse Basic Drum Rotating Unit incorporates a rotating cradle that tips to eject the drum at the completion of the spray painting operation.

The Eclipse Semi-Automatic Drum Painter paints and stripes up to 450 drums per hour.

The Eclipse Automatic Chime Painter paints chimes in a vertical position, automatically.

Pickling and Washing Machine Folder by Goodrich

A 6-page folder which describes the operation and merits of a new pickling and washing machine has just been published by The B. F. Goodrich Co., Akron, Ohio.

The machine prepares the materials with fully enclosed, high-pressure spray action. The company claims that use of the machine reduces man-hour costs 30% to 75%, cuts pickling time two-thirds, eliminates odors, corrosive fumes, splashing and dripping. The equipment is rubber-lined by the company's Vulcalock process.

Among features of the folder are a cut-away illustration of the machine, with descriptions of the most important parts and the roles they play. A table listing the solutions used in each of the ten sections, automatic cycle time and immersion cycle time is included.

Planned Painting Booklet By American-Marietta

"Plan Before You Paint," is the title of a new booklet intended for plant superintendents, maintenance engineers, purchasing agents, industrial architects, paint foremen and even the layman. It is a guide to planning a scientific industrial color system.

Exclusive feature of the booklet is a Dial-A-Tone color selector, a device which makes color selection as easy as dialing a telephone. By working the dial, 108 tested color combinations can be viewed. The color selector permits the pre-viewing

of a given plant's own color selections, or American-Marietta's recommended combinations by turning of three dials, one for ceiling, one for wall, one for dado.

A copy of this booklet may be had by writing Valdura Division, American-Marietta Co., 43 E. Ohio St., Chicago, Ill.

First Aid Reminders

A series of seven leaflets entitled, "First Aid Reminders" has been completely revised and brought into line with the latest scientific knowledge. The leaflets, most of which have four pages, are 3½x6¼-in. in size, illustrated, and printed in color.

The "First Aid Reminders" can be used either for general first aid instruction or for quick reference in an emergency. They can be distributed as payroll enclosures, as employee handouts, or placed in information racks.—National Safety Council, 20 N. Wacker Drive, Chicago, Ill.

Lubrication Equipment Catalog

A 48-page rotogravure catalog presenting Alemite's full line of industrial lubrication equipment is now available to industry through Alemite distributors and jobbers.

A highlight of the catalogue is the Alemite "barrel-to-bearing" selection guide. The pictorialized presentation of the guide makes it easy for purchasing agents and buyers to select correct lubricants and equipment for every plant need and helps reduce production costs.

Alemite is a division of Stewart-Warner Corp., Chicago, Ill.

Glidden Co. Warehouse Opened in Norfolk, Va.

A new warehouse for the Glidden Co.'s Paint & Varnish Division will be opened in Norfolk, Va. This warehouse will serve the Tidewater section of Virginia, north as far as Williamsburg and west to Emporia, as well as the eastern section of North Carolina. Heretofore all paint shipments to that area have been made directly from the Glidden plant in Reading, Pa.

W. R. Johnson, a veteran of ten years' service with Glidden, will manage the Norfolk branch. A. Raymond Campbell, formerly with another company, will commence his duties as a salesman on January 15. Glidden expects to assign another salesman to the warehouse before it commences operations. The new warehouse is located at 1515 Monticello Ave., Norfolk, Va.

Mac's FASHION
LACQUER PASTE FILLERS
RAPID-DRI AND OVER-NITE TYPES
Are specially formulated to withstand lacquer solvents and to prevent shrinkage and grayness.
Rapid-Dri Lacquer Paste Fillers oxidize in three to four hours ready for the regular finishing schedule. The Over-Nite type oxidize more slowly. They give excellent adhesion and provide a good foundation for the finish.
Available in all shades of mahogany, walnut and oak — also natural.
Write for new descriptive folder just off the press.
The Lawrence-McFadden Co.
Headquarters for Fine Finishes Since 1875
7430 STATE ROAD PHILADELPHIA 36, PA.

Industrial FINISHING Editorial

Business Normal After Boom

For several years we have experienced what is generally referred to as a boom—volume demand for goods and services, and the resulting high prices—in nearly all kinds of business, but now that some of this condition is subsiding, a few people are complaining. True, the production of some goods has caught up with demand; some plants have laid off production employees temporarily. A number of concerns have fewer orders and small orders for goods. Buyers have become slower and more selective in their purchases.

Let's not become too concerned or depressed about this return to what is really normal business conditions. It certainly doesn't mean a recession or the beginning of a recession. Before so many businesses became over burdened with too many orders—involving so much uncertainty and sometimes unconcern about deliveries—these annual let-ups in demand after the mid-winter holidays were taken as a matter of routine. They were expected and no one became even slightly concerned about this usual seasonal condition which had become traditional with so many kinds of business.

During these seasonal let-ups in production activity there is time in the plant for making needed changes, improvements, retooling, and maintenance work. Also, plans that have long been held in abeyance can now be placed into effect—putting better style, more quality workmanship and increased sales appeal into many products. These improvements can be made while at the same time ideas for reduced unit costs are being put into service too.

Debunking Excuses for Not Buying

In many cases it is just an old buyer's trick, telling the salesman, "We are overstocked; too much inventory; have to level off." It is a plausible excuse for not buying, and there is little if any argument the salesman can offer.

One nationally known manufacturer of coffee makers began getting an overdose of these excuses. The management wanted to find out if these conditions really existed, so a one-week sales holiday was declared. All salesmen were instructed to spend

NEW PERIOD
Production Finishes
BAKING ENAMELS
LACQUERS SHELLAC
ENAMELS FILLERS
SEALERS SUPPLIES
PRIMERS STAINS
SYNTHETICS VARNISHES
Begin Today!
Tomorrow will soon be here!
Begin today to make plans for tomorrow's market. Timing is the essence of changing market conditions effecting your product's consumer acceptance. Anticipate the demand for a better product at lower cost.
As soon as new materials become available NEW PERIOD chemists study their properties and formulate them in innumerable combinations to develop a finish that will meet the ever growing demand for faster quality production coating. This is an important part of our laboratory development work.
Many manufacturers in many different fields have standardized their finishing production with NEW PERIOD quality finishes. Perhaps we can be of service to you too. Submit your finishing problems to us, with no obligation, of course.
MANUFACTURERS OF FINE WOOD AND METAL PRODUCTION FINISHES.
NEW PERIOD
Production Finishes
ESTABLISHED 1917
NEW YORK WOODFINISHERS' Supply Co.
109 IMLAY STREET BROOKLYN, N. Y.

Public Demand Persists for MODERN

WOOD BLEACH

Secure Your Results

Make PERFECT
BLANCHIT-BLEACHED
Finishes

Use

BLANCHIT

Trade Mark Reg. U. S. Pat. Off.

THE ORIGINAL

A patented wood bleach which has been improved.

L. R. van ALLEN CO.

Patent Licensee

Chicago 54, Ill.

BEFORE YOU SPRAY

USE

Crystal

TACK RAG

Industrial size 18 x 36
WILL NOT SMOKE NOR
GENERATE HEAT WHEN STORED
IN A WARM PLACE
Always Soft and Tacky

Exclusively Processed by
Baugh Chemical Products Co.
7027 North Ravenswood Avenue
CHICAGO 26, U. S. A.

their time checking dealers' inventories, with no attempt to sell. Results were surprising in that most dealers were not overstocked, and many had unbalanced stocks.

Perhaps nothing as drastic as a sales holiday is necessary, but it might be well for salesmen to periodically check their customers' stock in the usual run of business. It would be a service to both buyer and seller.

Are Your Shop Methods Really Efficient?

★ Efficiency is a condition that has no limitations. Just as the accounting and bookkeeping process of a business must be orderly, so also must the sales outlook, purchasing, inventory control, warehousing, plant maintenance and manufacturing elements be fit into an orderly and careful routine, set up in such a way that it is flexible. Flexibility of shop layout and equipment makes it less costly to put into production new styles of merchandise and to improve the mechanical and other phases of the regular line of products. It keeps the manufacturing unit versatile and always ready for change in conformance with marketing conditions.

An efficient finishing department should be set up with an eye toward eliminating, to the greatest degree possible, all excess movement. Each job should start as nearly as possible to the source of supply, and end as nearly as possible to the next stage of operations. With or without con-

★ *Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimuate thought on a live subject. The Editor welcomes guest editorials, paying for those published.*

veyors, the finishing operations can be arranged in a straight line, or curved to fit the floor space that is available.

For example, let's consider a furniture plant. Real cabinet makers will generally do a neat job of assembling the component parts of the wood furniture, and when it leaves them the furniture seldom if ever needs any further inspection.

On the other hand, if inexperienced, unskilled or careless help is allowed to pound parts together, leave glue smudges, hammer marks and other visible defects which are passed along to the finishing department, the management is tolerating costly inefficiency. It is pushing the finishing foreman into the first step on the road to insanity. The firm is adding on an extra heavy cost for inspection by the finishing department before surface repairs begin. This extra work is forced on the finishing department because of poor work in the cabinet department. When this waste of labor and materials is figured up from time to time, the finishing department loses and is forced to continue the waste in order to "keep peace in the family".

The first coating and the subsequent operations included in the finishing of a product are pretty well stanardized, but when the furniture is moved from one end of the finishing department to the other end, then to the middle, without any thought given to a continuous orderly process of treatment, except that of first cost, efficiency flies out the door. Here we find an enormous waste of time, energy and money, with the resulting high cost and high selling price—and with minimum profit.

You can easily be your own efficiency expert. It is an interesting job if

WABASH PRODUCTS COMPANY

16TH AND HULMAN STREETS

TERRE HAUTE, INDIANA

SIMAX

THE FINISH THAT LASTS

Industrial Finishes

Lacquers Enamels Sealers

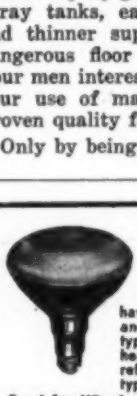
Stains Varnishes Thinners

Synthetics, all types

you go at it with the right spirit. Don't look for trouble by needlessly trying to fire a few men to show your authority, or you will be contributing your share to continued inefficiency. Just quietly study the methods used in your production system. Find out where unnecessary time is being spent.

Will a moving around of work stations facilitate better progress of the product through the finishing operations? Give attention to the details too, for example, standard sizes of sandpaper precut and ready to use, special spray-gun fluid tips, larger spray tanks, easier access to paint and thinner supplies, elimination of dangerous floor conditions, etc. Get your men interested in their work. In your use of materials, use the best proven quality for your product.

Only by being on your toes and repeatedly thinking in terms of efficiency and quality will you be able to pass on to those who do the actual operations on your products, a desire to work for your interest. Competition is here now. Will your plant answer the roll call a year from now?—N.A.



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Time tested—job tried. Nalco infra-red lamps have proven highly efficient and long-lasting for all types of drying, baking or heating installations . . self reflecting or clear glass type.

Send for "Drying Problems Made Easy"

North American Elec. Lamp Co.
1030 Tyler St. St. Louis 6, Mo.

Stock Control of Finishing Materials

★ One of the most disconcerting things that can happen to a finishing foreman is to have a big run of some particular product coming through the department, and then discover that he does not have the finishing materials on hand for the job. This sort of thing can be prevented by a suitable system of records, so that materials will be ordered automatically as they are needed.

A good record system is based on a perpetual inventory of all finishing materials on hand. First of all, there should be a stock clerk who is charged with the responsibility of maintaining a suitable stock of finishing materials. If it is not practical to have a full-time stock clerk, then the job can be delegated to someone in the finishing department, such as the assistant foreman.

The minimum stock of each mate-

the SPRA-CON COMPANY

"THE FINISHING TOUCH"

Engineers and manufacturers of conveyors, ovens, washers, and equipment for complete paint finishing systems . . . .

1402 No. Western Avenue, Chicago 22, Illinois

rial should be agreed upon. When the stock of a given item drops below that minimum, the stock clerk requisitions more, and the purchasing department orders it. Each incoming shipment is posted on the records. None may be withdrawn without a requisition from the finishing foreman. Each withdrawal is taken from the records, so that a continuous inventory is maintained. Such a record system is simple and practical for even the smallest factory.

A weekly or twice-monthly conference of the plant superintendent, the finishing foreman, and the stock clerk will help to make the system work smoothly. The get-together need not require more than a few minutes. The plant superintendent can advise the finishing foreman and the stock clerk just what the production plans are for the immediate future. In this way the foreman and the stock clerk will know just what is needed in the way of finishing materials for two or three weeks ahead. This regular conference will protect the superintendent from the embarrassment of holding up production in the finishing department due to its not having been notified in advance.

The superintendent should notify the finishing foreman and stock clerk if a given item is to be discontinued, so that the finishing materials ordinarily needed for that item can be dropped from the stock records. The best way to do this, of course, is for the superintendent to let them know while the last production run of that item is coming through, so that all stocks of special finishing material for that item can be used.

The stock clerk should see that materials are stored properly, and that all withdrawals are from the oldest stock of a given material. Periodical-

Announcing

The Newest Member of a Famous Family

T-349

ELECTRO COLD STRIPPER

- FOR APPLICATION BY BRUSH
- REMOVES MOST FINISHES QUICKLY
- C-L-I-N-G-S TO THE SURFACE
- NO DAMAGE TO METAL OR WOOD
- NON-INFLAMMABLE; NON-INJURIOUS

Write for Free Sample and Quotations
—or Order 5 Gallons at Drum Price

ALLIED FINISHING SPECIALTIES CO.

2461 WEST GRAND AVE. CHICAGO 12

ly, containers of pigmented materials should be turned over or rolled about to prevent settling and "caking" of pigments due to long standing without being disturbed. Containers should be placed where the labels can be read easily, and where they will be available without moving other materials. The orderly handling of finishing materials will prevent delays, and insure an adequate stock of materials, in proper condition, when needed.—R. H. WAMPLER.

Finishing Small Parts

★ Most finishing departments are properly laid out and equipped for finishing regular items of production. One of the most troublesome problems is finishing occasional batches of small parts, when the regular production consists of relatively large items. This is no problem in a department designed for finishing small parts exclusively, but it is a problem in most plants. Finishing costs are likely to be high because of the excessive labor cost required for handling small parts.

If small parts must be finished more or less regularly, then consideration should be given to special equipment for this work. Special conveyors, automatic spraying and dipping equipment, tumbling barrels, centrifugal whirling machines, wire baskets, etc. may make such special provisions profitable.

If the finishing of small parts is only an occasional matter, then the foreman may have to improvise to keep costs down and production up. Small parts can be handled in batches quite successfully. For instance, a great many may be laid out on a large, flat piece of plywood and put on the conveyor. As they pass through the spray booth, they are sprayed all at once and then go through the drying ovens.

Sometimes it is best to place small items on special racks made by driving nails through a piece of thin plywood. Great numbers may be placed on the ends of the nails, where they will be prevented from blowing off when sprayed, and where they will not stick to the panel. *(To page 128)*

ALAKA Lacquers
QWIK-BAKE Synthetics
ALAKATONE Hammered Silver
SYNTHALAK Air-dried Synthetics
LACQUER & CHEMICAL CORPORATION
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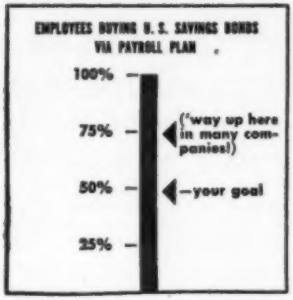
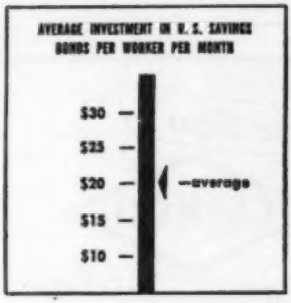
How is YOUR company doing in this "EVERYBODY-BENEFITS" plan?





If the figures for your company fall below those shown above, you're missing your share of benefits of the Payroll Savings Plan! Nation-wide experience proves that when top management puts the "OK" on the Plan, its benefits rise sharply.

Benefits to *Employees*—Every $3 invested in Savings Bonds pay $4 at maturity. Workers gain (1) the means to buy in the future more of the things they will want; (2) the peace of mind that goes with regular saving.

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What can You do?—If your company has the Payroll Savings Plan, make sure it's adequately promoted by your top executives.

If you haven't yet installed the Plan, why pass up its benefits any longer? All the help you need is available from your State Director, Savings Bonds Division, U. S. Treasury Department. Call him today!

The Treasury Department acknowledges with appreciation the publication of this message by

INDUSTRIAL FINISHING

This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and the Advertising Council

Manual dipping in batches may be successful. A great many small parts can be placed in a wire basket and dipped into the finishing material. They may then be dumped into shallow wire trays to dry, or they may be force-dried or baked in the baskets after being allowed to drain.

Any method that will eliminate handling and finishing of each individual item separately will reduce costs. If the foreman will exercise imagination and ingenuity on the problem, he can often make a troublesome problem a routine matter.—R.H. WAMPLER.

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Let us help you with your finishing problems

THE CLINTON COMPANY

1210 Elston Ave., Chicago 22, Illinois

DuPont's New Service Lab. Located in Chicago

A field service laboratory to assist industries in the Middle West in handling their finishing problems has been opened by the DuPont Co. in Chicago. It has facilities for spraying and baking various finishes on furniture, refrigerators and other metal and wood articles, and a large workroom for preparation of panels and similar work. Other DuPont field service laboratories are located in Philadelphia, Pa., and Roanoke, Va.

The Chicago laboratory is available to industries throughout the Middle West. It is under the direction of William P. Fisher, Chicago regional sales manager of the Finishes Division.

Located in a separate new building at the DuPont Finishes Division plant at 2100 Elston Ave., the laboratory is stocked with many of DuPont's industrial finishes, both for use in the laboratory and as sample stocks for customers.

The spray room has a modern water-wash spray booth and conventional drying racks, as well as an electrical baking oven with a temperature range from 100° to 500° F. It is large enough to bake the finish on desks, refrigerators or other large objects.

The laboratory is staffed by experienced servicemen. It is available without cost to users or prospective users of DuPont finishes to make finish recommendations and help solve actual production problems. It is also prepared to offer new color suggestions to furniture manufacturers.

Test Sample Proves "LIQUID ENVELOPE" SPRAY-BOOTH COATING CUTS CLEANING COSTS!

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The Miskella Standardized Insulated line now includes: Vibra-Veyor, Duplex-Veyor, Burn-in-Kit, Bench-Kit, Test-Kit, Barrel-Kit, "Tub" Oven, Pull-Thru Oven, Elliptical Oven, Rack-Tub, Hy-Heat Units, Super-Heat Units, Low-Heat Units, Porta-Veyor, Chain-Veyor, Belt-Veyor, Coil-Veyor, Heat-O-Lier and Attic Oven.

Finishing Parts for Studio Cameras

by R. H. Sprague

BESIDES ALL of the things a camera must be, it must be black throughout its "exposed" interior. The finish must have excellent adhesion and it must be durable. Most of the metal parts of a camera are die-cast aluminum. All are finished as separate units before assembly. Also all parts are alodized before they arrive in the finishing room.

Certain sections of the inside surface of practically all camera parts do not require a black finish (surfaces that are not exposed after assembly) therefore all spray coats must be applied through precision metal masks to prevent these sections from being coated.

The first operation is to spray a flat black synthetic enamel which fills any chill marks or pits in the die casting. This coat is baked in a batch type oven for 30 minutes at 275° F.

After cooling, each part is carefully inspected and any visible low or rough places are knife glazed. This glaze air dries in about 30 minutes. Then a surfacer coat is applied through the masks. This is a flat black lacquer which is allowed to air dry about four hours. Parts are then dry sanded with No. 300 sandpaper, followed by blow-off and tack rag operations.

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PULMOSAN R-151 Respirator
Neutralizes fumes of paint, lacquer, enamel—traps particles. Comfortable, durable, economical.

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Next, using reverse masks, all aluminum sections of both inside and outside surfaces are sprayed with the first coat of aluminum lacquer. This is allowed to air dry about four hours before being sanded with No. 400 sandpaper. Blow-off and tack rag operations follow.

Using the same reverse masks, the top coat of semi-gloss aluminum lacquer is sprayed on and this coat air dries for four hours. Then, going back to the original masks, all inside surfaces are given a final spray coat

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of optical black lacquer. This is followed by an air drying period of four hours. The top coat of clear semi-gloss lacquer is sprayed on all outside surfaces, using a tight fitting edge mask which prevents any overspray from contacting the optical black coated sections of the inside surface.

Timing Oven Trucks

IN THE finishing department of one plant, someone has worked out a novel and simple method of timing the baking of finishes. The oven is a large batch oven of four truck capacity; it has doors at both ends. Loaded trucks enter at one end and emerge from the other. All paints used are baked at the same schedule, which is 300° F. for 45 minutes.

Since the maximum capacity at one time is four trucks, four metal identification panels were made, each about 12-in. square. These were painted on both sides; one was painted all white; one was painted black; one was white with a black center, and one was black with a white center. In addition, duplicates of these panels were made about 3-in. square. When not in use, the sets of panels are hung on individual hooks.

When a loaded truck is placed in the oven, the handler hangs one of the large panels on the front, facing the exit doors. He hands the small duplicate plate to the head sprayer, who is an assistant foreman. This man has mounted on the side of his spray booth, four inexpensive oven or kodak developing timers. Each of these little devices has a knob graduated from 0 to 60 minutes. Turning this knob winds a spring and when it ticks back to 0 a bell rings.

The head sprayer takes the small panel (given him by the handler) and hangs it beneath one of the timers which he sets for 45 minutes. When the bell rings he simply looks up to see which timer (with a tag under it) is at zero. Then he hands this tag to the truck handler who, in turn, re-

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CLOR-O-LAC offers merits heretofore unknown! Spray application air dries in *3 or 4 minutes* to a high gloss! Ideal also for roller coat or dip application. CLOR-O-LAC is highly resistant to alkalis, gasoline, grease and extreme weather.

Give your wood and metal products this beautiful, glossy finish that is tougher and far longer-lasting than ordinary applications. Available in clear or any color. For further details write:

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Originators of paint rejuvenating equipment---sixteen years---thousands of satisfied users.
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127 E. 9th Street St. Paul 1, Minn.

moves the truck that has a corresponding tag and then returns both panels to the foreman. This system, being simplicity itself, is completely foolproof.—GEORGE A. CONRAD.

Foundry Equipment Co. Buys Young Brothers Co.

Charles A. Barnett, president of The Foundry Equipment Co., 1831 Columbus Road, Cleveland, Ohio, announces the purchase of the industrial oven business of Young Brothers Co., of Detroit.

Young Brothers Co. was organized in 1896 and has been one of the nation's leading manufacturers of industrial ovens for paint and varnish baking, lithographing, metal decoration, etc. The Foundry Equipment Co., likewise is one of the oldest firms in the industrial oven field, and has for many years specialized in the design and manufacture of ovens for foundry service.

The Foundry Equipment Co. will operate the Young Brothers Co. under that name, and will continue the sale, manufacture and installation of Young ovens.

What Happens When a Surface is Cleaned

Wyandotte Chemicals Corp., manufacturer of cleaning materials, working with scientists at the University of Wisconsin, is studying what actually happens when surfaces of metals such as aluminum, steel, zinc and silver, and glass are cleaned.

In the past, the most modern scientific tools have failed to reveal exactly what happens when a surface is cleaned. However, when the U. S. government released radioactive compounds for civilian use, a powerful new tool became available; now single atoms can be traced throughout complex reactions and combinations.

An initial report on the work appeared recently in the Journal of the American Chemical Society. It discloses that positive ions from the cleaning solutions rapidly build up electrically-charged layers, as much as five ions deep, on the surface being celaned. The thickness of the layers and the rate at which they were built up are greater in hot solutions than in cold. Also, high alkalinity favors a rapid build-up of the layers, and preliminary heating of the surface has the same effect.

Industry will be interested in further reports as experiments progress. The knowledge gained will advance the important work of surface cleaning.

Offers Courses in Finishing

Two courses that deal with modern finishing are being offered by New York University, one for those who have not had much experience, and another for technical employees who have a fundamental knowledge of paint and finishing requirements.

There will be Wednesday night courses, starting Feb. 8 to May 24. The beginners course is only $25.00 and the more advanced course is $30.00.

Those interested may contact Division of General Education, New York University, 100 Washington Square East, New York 3, N. Y.

Oakite Celebrates 40th Anniversary

February this year holds particular significance for Oakite Products, Inc., for it marks the completion of Oakite's fortieth year of cooperation with industry on production and maintenance cleaning procedure.

John A. Carter, General Manager of the company, in commenting on the increasing utilization of its methods and products by industrial plants, says: "The 40 years of achievement we celebrate this month can be attributed in large measure to the company's policy of rendering a service and selling a product on the side. In the years ahead, Oakite will continue to direct its efforts toward developing this service still further, along with designing new materials and improved methods for applying them, to the end that cleaning costs in industrial plants and shops may be substantially lowered."

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Use it as a primer under nitro-cellulose lacquer. Nothing is better.

Use it for extra adhesion under synthetic baked finishes.

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Use it as a satin or semi-gloss finish for aluminum and other non-ferrous metals.

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FINISHING FOREMAN WANTED

Radio cabinet factory requires experienced foreman, accustomed to high-speed production to take complete charge of finishing room employing 75 people. Good salary. Company well established. Apply CONNECTICUT CABINET CORP., Mystic, Conn.

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By prominent manufacturer of Wood Finishes. Only top grade man will be considered. Will pay the right salary to the right man. Address IF-614, care Industrial Finishing.

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EXPERIENCED SALESMAN WANTED.

To sell industrial finishes in established territory in Tennessee. Drawing account and commissions. Excellent opportunity for man with sales experience, preferably in Tennessee. Address IF-615, care Industrial Finishing.

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Reliance has a complete laboratory in Chicago that can and will produce your sample requirements promptly. The financial possibilities are unlimited for a top flight man. Your correspondence will be treated confidentially. H. CHARLES GRAWEMEYER, RELIANCE VARNISH CO., 4501 W. Haddon Ave., Chicago 51, Ill. Belmont 5-5500.

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An experienced New York or New England industrial finishes salesman, with customers who believe him—can do much better for himself with a really fine line of synthetics and lacquers that back him up with service to match. Such a salesman can get an interesting offer for his services from a firm that's going places. Write for an interview with MR. R. ABLON FINISHES INCORPORATED, 84 Waydell Street, Newark 5, New Jersey.

INDUSTRIAL SALESMAN WANTED.

An outstanding and large manufacturer of a complete line of stains, fillers, lacquers, all synthetics, Japans, specialty finishes is looking for two good salesmen to call on manufacturers in first, sections of Virginia, North Carolina and South Carolina and second, in Metropolitan New York City, Long Island and surrounding area. Salary plus expenses and liberal bonus on sales over reasonable quota. Excellent technical laboratory and manufacturing facilities. Service Department to assist salesmen in field. We desire men of experience. Reply with full details of past experience, age, present employment and which of above two territories desired. All replies will be held in strict confidence. Address IF-616, care Industrial Finishing.

DISTRIBUTORS WANTED

For concentrated line of synthetic resin cold setting adhesives. Materials for bonding plastics, including lucite, plexiglass, polystyrene. Adhesives for fabrics, wood, cellophane, glass and metal. Waterproof paper seam cement. Number of outstanding products with broad appeal will net continuous return in repeat sales to jobbers and sales agents with industrial contacts. NATIONAL CHEMPLAST CORP., 337 Butler St., Brooklyn 17, N.Y.

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Direct and assist efforts of six salesmen selling industrial finishes to manufacturers. Appropriate compensation but flexible to meet conditions. Must know product finishes and be a currently successful salesman or sales manager of metal product finishes. Not over 45 years old. Location is Louisville, Ky. Write fully to IF-606, care Industrial Finishing.

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Division, Affiliated Gas Equipment, Inc.
Purchasing Department
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Chrome Plating, 48"x30"x30", with exhaust head ----------(4)
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Reclaim, Lead Lined 3" cypress, 30"x24"x30". ----------(1)
Soak Tank, 30"x24"x30", ¾" steam coil ----------(1)
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Copper Oxide Rectifiers, 440 V, 3 ph., 60 cy. with 115 V fan. Voltage Regulaters with ammeter 0,-800, Voltmeter grad 1-10, push button station Westinghouse HD 2 handle controls, Output 6 V D.C., 500 Amp. Back connected reversing switch, 500 Amp. double pole, double throw. ----------(7)
Ampere Hour Meters. ----------(7)

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An order of 2,500 gallons of Advance lacquer was shipped recently to a large radio cabinet manufacturer in Pulaski, Va., from Advance Paint Company's new factory—*the most modern industrial finish plant in the world.*

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Advance designed its new factory on the basis of 50 years experience in formulating finishes to the requirements of specific jobs. Plan your production schedules around Advance's ability to meet your finish requirements faster.

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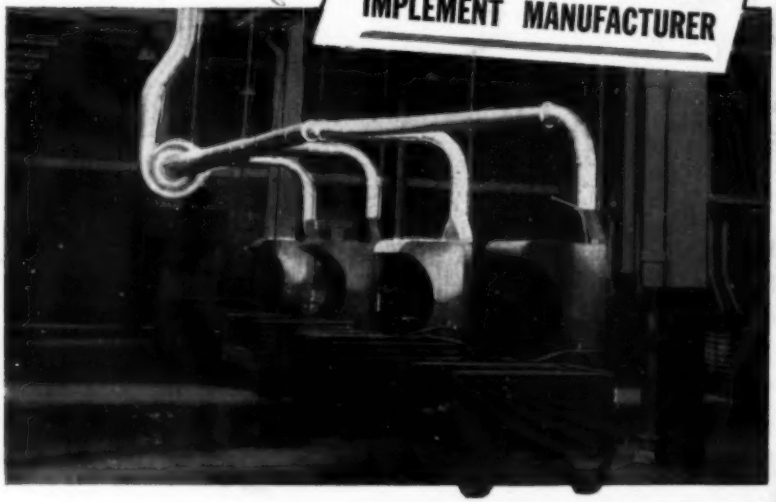
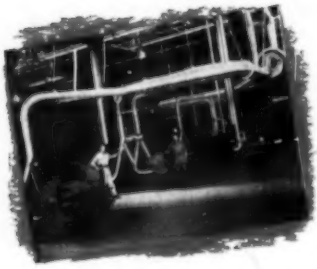
"CHIPS fall where they may?"

...but NOT IN PLANT OF NOTED IMPLEMENT MANUFACTURER





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This noted firm realizes that clean air means greater production, happier and healthier workers less maintenance and replacement costs on motors and other equipment.

You can profit from Kirk & Blum experience. Write for free booklet "Dust Collecting System in Metal Industries." The Kirk & Blum Mfg. Co., 2831 Spring Grove Ave., Cincinnati 25, Ohio.

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DUST CONTROL SYSTEMS